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ABSTRACT

Joint use of school and community facilities is considered in a collection of reports organized under the following general headings--(1) cooperative planning for creative learning, living and leisure, (2) design for learning, living and leisure, and (3) balancing quality and economy in schoolhouse planning. (FS)

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CREATIVE PLANNING of PARKS and PLAY AREAS

*for
learning,
living,
and leisure*

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A SCHOOL PLANNING LABORATORY PUBLICATION

ED037001

CREATIVE PLANNING OF PARKS AND PLAY AREAS FOR LEARNING, LIVING, AND LEISURE

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SCHOOL OF EDUCATION, STANFORD UNIVERSITY

James D. MacConnell

DIRECTOR

A SCHOOL PLANNING LABORATORY PUBLICATION

DECEMBER, 1957

STANFORD, CALIFORNIA

FOREWARD

The rapid growth in population in recent years has made it quite obvious that joint (school-community-industrial) planning must be enhanced for the economical benefit of the community and the optimum utilization of the tax money.

No longer are school planned programs sufficient within themselves to guarantee the effectiveness of education and the leisure-time activities of our youth. To provide for a well-rounded program of living, joint planning must be considered as a continuous process and be pursued vigorously in all aspects of educational and recreational need.

With this concept in mind, the School of Education, School Planning Laboratory, sponsored an institute in the summer of 1957 which was centered around the theme co-operative planning and joint use of school and community facilities. This publication is an outgrowth of that conference. The title, Creative Planning of Parks and Play Areas for learning, living, and leisure, was chosen to emphasize the creative aspect of joint planning.

It is hoped that this publication will assist school and recreation groups as they plan for their future facilities.

James D. MacConnell

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PART 1



**COOPERATIVE PLANNING FOR
CREATIVE LEARNING, LIVING,
AND LEISURE**

**"The noble employment of leisure is the highest aim
which a man can pursue."**

—Aristotle: 330 B.C.

WHERE SCHOOLS AND COMMUNITIES COOPERATE, TEAMWORK RESULTS

Louis E. Means, Consultant in School Recreation
Bureau of Health Education, Physical Education & Recreation
Sacramento, California

School administrators should re-examine the purposes of education in today's complex society, especially as related to leisure in American life. Positive contributions through curricular and co-curricular experiences must prepare for vocational and professional competency, which now involves a forty-hour week, and which--in many cases--may involve a thirty-two hour week. The dilemma remains as to what the role of the school may be in preparing persons for the remaining one hundred and twenty-eight to one hundred and thirty-six hours each week. Much of this bulk of time will be leisure-related.

Community Education in a New Perspective

School administrators are rallying strongly behind the community school concept. A newer concept of community education needs to be fostered. Here, the schools play a dramatic role, yet claim no monopoly on things educational in community life. All resources of the community should be involved and should make contributions to community education. So it is with recreation. No jurisdiction, or agency, in California has a monopoly--or even a primary responsibility--in providing recreation and leisure services in any community. Indeed, it is doubtful if any jurisdiction can proceed alone effectively. Thus, we are drawn closer and closer to the inescapable necessity for governmental and agency teamwork in the joint planning of services and facilities.

Joint Planning--Necessary!

Close harmony must take place between school instruction and leisure-related laboratory experiences or recreation; otherwise articulation and purpose will be lost and efforts dissipated. Cities, counties, and recreation districts have the power and the natural

ability to provide certain facilities which the schools normally do not provide. Examples are: golf courses, boat harbors, public beaches, regional mountain peaks, and the like. On the other hand, schools need and provide millions of dollars of indoor and outdoor facilities associated with physical education, music, dramatics, crafts, and citizenship education.

Partnerships and joint operating relationships between school districts and other governing bodies must be nurtured in an atmosphere of mutual concern and confidence. California has many small and large communities where the schools and other jurisdictions jointly and co-operatively operate the year-round recreation programs for children, youth, and adults. In such cases schools are not merely the custodial care takers of the community educational facilities, which are made available upon demand for recreation by other jurisdictional agencies. Their stake in recreation is more dynamic, more personal and active. A practical and accelerated kind of joint planning and operation by cities and schools in the area of leisure is increasing.

Attention is also directed to the recent nation-wide emphasis on unorganized outdoor recreation. Active participation seems to be superseding past apathy toward activity and past applause for spectator enjoyment. School officials and recreation administrators alike should be sensitive to these desirable directions; together they should prepare for this era. Schools can develop competencies, interests, attitudes and experiences in this area which may increase total fitness, preparing individuals more adequately for satisfying living.

Accolades are due the Bureau of School Planning, State Department of Education, for several decades of leadership in preparing for; expansion of school sites, joint planning with other agencies for total use, more effective and functional design, and other far-sighted services. Likewise, the Stanford University School Planning Laboratory has provided unusual and effective service in the area of site development and construction planning which is unique in California.

Attention is called to the several publications of the State Department of Education and the California Recreation Commission on subjects relating to site utilization, facility standards, joint planning of program and facilities, as well as other topics of interest in recreation.

Historically, "city hall" and school district administration carried on a friendly but persistent struggle involving autonomy of school operation. Education has achieved almost totally the objec-

tive of self-determination of educational policies as well as fiscal operation. We are now in the midst of a tremendous, rapidly-moving drive toward a close and warm partnership between the two jurisdictions for the provision of more adequately effective and economical resources for recreation. California is in the forefront of this desirable movement. This new emphasis on teamwork comes just at the opportune time, setting the stage for effective action and productive results.

JOINT MASTER PLANNING FOR A METROPOLITAN AREA

George Hjelte, General Manager
Recreation and Park Department
Los Angeles, California

Planning recreation and park developments in the very large city present some problems which are not present with equal force in cities of lesser size. To be sure, there are many principals which apply in all cases. It is the purpose, here, to mention only those which apply uniquely or with more than ordinary force to planning in large metropolitan cities.

Co-operation for Recreation

No single agency can be expected to administer all of the public parks and recreation facilities in the metropolitan city. Inevitably there will be a park or recreational department of the municipal government, usually one which consolidates park and recreation functions. Such an agency will of necessity be limited by the city charter or by legal interpretation to the operation of properties of which the city has title. Additionally, the school district or districts will permit school buildings and grounds to be used for recreation purposes with much, if not all, of this program directly under school administration and financed from school funds or conducted on permit by community-serving agencies. The provision of neighborhood playgrounds cannot be complete according to any reasonable standard in any large metropolitan city unless the school grounds complement the municipal park and recreation centers. Parks and recreational centers will always be fewer than schools within a city.

Master Planning--Necessary!

Accomplishment of a Master Plan for reasonable and equitable distribution of playgrounds and parks throughout a city will always require the voting of bonds for this purpose. Metropolitan cities are large, and much of the area within them are old. It is already too late for these cities to finance acquisition of a sufficient number of parks and playgrounds on any pay-as-you-go basis. More bold and costly means are necessary and there is none available other than the voting of large general obligation bond issues, except as mentioned in some cases the incorporation of a program within a comprehensive urban development program in a given district.

Bonding--Required

In California, a 2/3 majority of votes is required for approval of a bond issue. Approval of large bond issues can be obtained in large metropolitan cities for park and recreational purposes, but only after long time cultivation of public opinion and support. Unanimous approval of important agencies, such as the Chamber of Commerce and major newspapers, is an essential condition to success. Commitment of such agencies to a program should be obtained before it is presented to the public, for even one agency can engender sufficient doubt as to the worthiness of a bonding proposal to cause more than 1/3 of the voters at a municipal election to express themselves unfavorably. Sometimes it is necessary to present a program more than once to obtain approval. The experience of San Francisco in approving bond issues of 12 and 7 million dollars in the last 10 years, and of Los Angeles in the sum of 12 and 39 million dollars attests to the validity of this statement.

The metropolitan city must plan for at least three types of recreational and park areas. These include neighborhood parks and playgrounds, community parks and recreational areas, and regional parks. The accent in metropolitan city park planning is upon the community and regional facilities, with the neighborhood facilities playing a complementary role to those provided by the schools, which constitute the primary source of neighborhood play areas and facilities. The smallest cities usually concern themselves with neighborhood facilities and possibly a single community park; the regional areas become a responsibility of the country, state, or perhaps the national park system. The boundaries of metropolitan cities, however, encompass sometimes extensive beach frontage or large submarginal or marginal areas that have great park and recreational potential; hence, their acquisition and improvement can be accomplished usually through enterprise. Included in such regional facilities are waterways and golf courses, which can be found in all of the metropolitan cities to some extent.

Park areas in metropolitan cities must be protected from diversion to other than park purposes. A park department in a metropolitan city is possibly the largest holder of real estate within the city, and certainly the largest holder of properties that are not occupied by large structures. The pressures to divert these properties to many kinds of municipal purposes and to streets and highways are tremendous. Usually the only reason for such diversion is that the park lands are unobstructed with great buildings, and that it is less costly to build another public structure upon the park lands than to acquire lands at great expense elsewhere. This is a problem which small cities experience as well, but not to the same extent.

A metropolitan city has no hope to create an adequate park and recreation system unless it has a Master Plan as a guide to progress. Opportunities to improve the condition of the city in respect to recreation and park sites and improvements occur fortuitously and sometimes accidentally. To judge the validity of such opportunities and to take advantage of them when they occur requires that there be a Master Plan as a frame of reference. Progress in improving the park and recreational situation in big cities may almost be described as a studied process of being ready with well-conceived plans in order to take advantage of the "wind-falls" as they arise without the possibility of predicting when they shall appear.

Interrelationship

The complicated interrelationship, between a municipal recreation and park agency on the one hand, school district and recreational department on the other, and in addition quasi-public community supported agencies which conduct recreational programs throughout a city, necessitates the establishment of a continuing agency for the purpose of affecting co-ordination. This co-ordination is essential in planning areas and facilities, as well as in the formulation and conduct of recreation programs. Such an agency needs to be sufficiently financed to conduct studies to provide forums for discussion, to interpret the plan and programs of recreation to the general public, and especially to obtain understanding of the larger problems by top-level lay leadership throughout the city.

Recreation and education, as public services, have now become of interest to nearly all people of a metropolitan city. It is amazing the extent to which relatively all the public is dependent upon the publicly owned and operated resources for recreation as contrasted today with the situation a half century ago. This is especially true in the metropolitan cities where the command of resources for recreation of large numbers of people is exceedingly expensive--for example, the ownership of ocean front or lake front, and the ownership of golf courses with their burden of taxes and expensive maintenance. Because the citizens have this continuing stake and

interest in public recreation, the planning of recreation and park facilities must always be kept attune to changing public interest and public demand, with the responsiveness to interest and demand kept in line with valid and accepted principles and standards. Planning in this field cannot be left to expediency and political whim. Regardless of considerations which might place other municipal functions on a strictly managerial basis, the recreation and park function is best served in large cities by official lay boards with a clear-cut differentiation between the policy-making and general directional function of boards on the one hand, and the managerial responsibility on the other. The latter function should be vested in a departmental chief executive. Such boards should not be "administrative boards" in the usual sense of that term, nor should they be advisory boards solely. There is a middle position, and that is one of policy setting --making final determinations in respect to some matters, and being empowered to give general direction to the administrative head.

The administrative head works closely with the school department and agency administrators to accomplish the most efficient coordinating operation.

A MIDDLE-SIZED CITY PLANS CREATIVELY FOR LEISURE

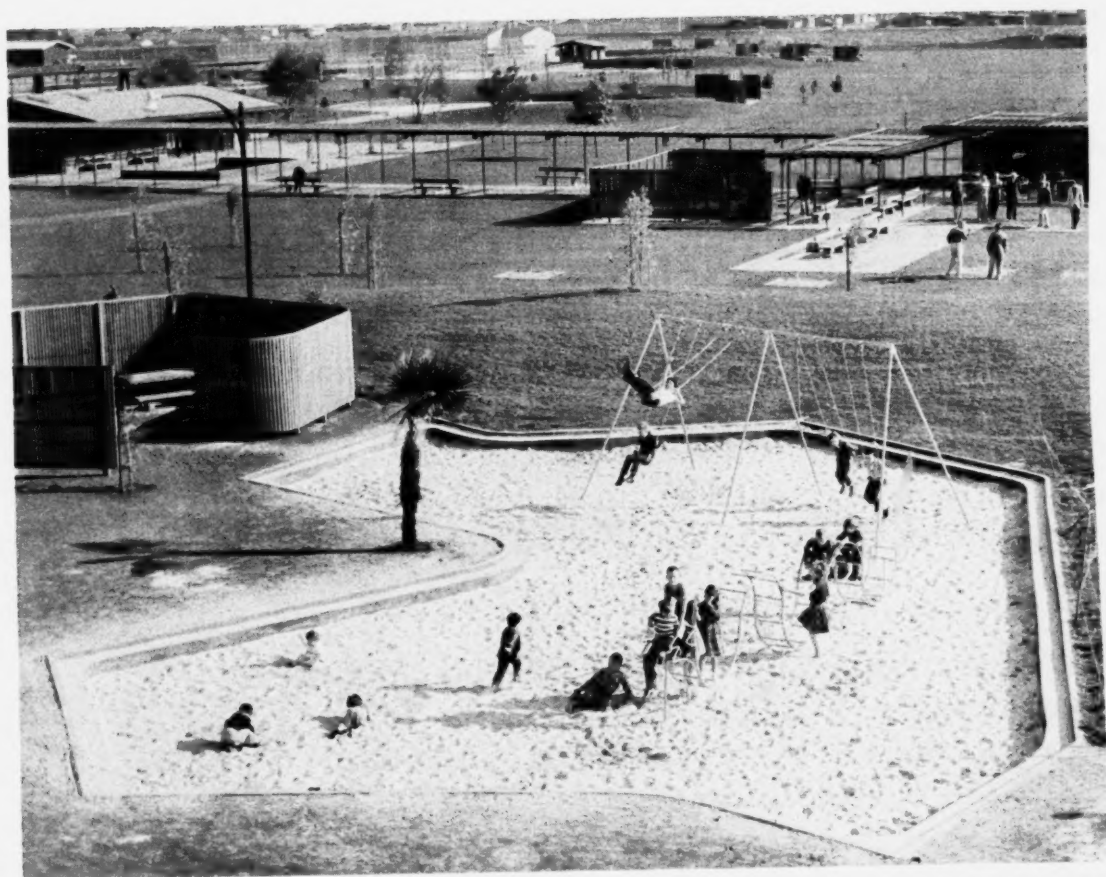
Alec Smith, Superintendent of Recreation
City of Palo Alto, California

Not since the beginning of time has man experienced so many scientific, socio-economic, and cultural changes as those which have been witnessed so far in the twentieth century. This "age" has been given many labels. It has variously been referred to as: the industrial age, the age of urbanization, the age of transportation, the age of mass communication, the electronic age, and the atomic age. These, in turn, have given rise to a new label--"the age of leisure."

Leisure Time

More and more leisure time for the average working man has been the direct result of the scientific and technological achievements of the past few years. Less than one hundred years ago, the average work week consisted of 80 hours. Today, rarely does the

average man put in more than 40 hours on the job without additional compensation. It is possible that by 1975, or sooner, the 30 hour week will be commonplace. What is to happen to these people with time on their hands? Certainly we must agree that space must be acquired and special facilities be provided to aid in the solution to the problem which man has created.



The "Juniors" enjoy creative play areas at Mitchell Park, Palo Alto, California

Demands

This age is not without its concurrent problems. Explosive growth and phenomenal shifts in our population from rural to urban and from urban to metropolitan coupled with inflation have created serious problems pertinent to the provision of facilities which are needed to accommodate people with an abundance of free time. Both school and park and recreation groups are continually faced with spiraling land costs resulting from a reduction of available sites in strategic locations, overburdened or exhausted tax sources, and confused citizenry that has been voting down issues which are incomprehensible to them.

This confusion results partly from our failure to educate and inform the lay public of the need for adequately planned facilities to meet the demands of this new age. One should not hesitate to submit the bold assumption that with an enlightened citizenry co-operating effectively in a creative and intelligent program of action, the major problems could be resolved to the mutual satisfaction of all concerned.

Planning--The Key

Here the key word in program needs and possible courses of action is planning--the process of organizing the elements of a given situation in an arrangement designed to affect desired results. Planning involves investigation, analysis, and appraisal in the light of accepted standards. Planning should be accomplished with long-range objectives in mind, but at the same time planners should be cognizant of immediate needs in view of existing conditions.

Underlying the planning of facilities for people with ever-increasing amounts of leisure time must be a conviction that their use will promote the widespread achievement of human welfare in a free and democratic society. This society recognizes the worth of the individual and provides for his development in that society.

Experience has already demonstrated that co-operation between school and community has resulted in joint use of parks and play areas which have proved to be better than either could have developed alone. Moreover, this has been accomplished at much less expense to both than it would have required if each had developed separate facilities.

The prevailing aims and objectives of physical education, health education, athletics, and recreation are sufficiently common to justify and encourage greater alliance in the conception, planning, and development of a co-ordinated system of needed facilities. These facilities could be shared by all agencies responsible for their creation, operation, and maintenance. A growing understanding of this concept has led to considerable progress in the joint use of park and recreational facilities in many communities.

Agreement

Much greater progress will be made in those communities where the concept of joint use is mutually understood and joint planning is currently undertaken in other problem areas. Joint planning for the development and utilization of school, park, and recreation facilities requires predetermined agreement on policies and responsibilities. The following are submitted as guides for those interested in arriving at these agreements:

It is mutually agreed and understood that:

1. Facilities for athletic, recreation, health, and physical education are necessary in a modern community.
2. The distribution, location, and size of these facilities are closely related to the total community pattern.

3. Such facilities should be planned in relation to all other community needs.
4. Competent professional help is obtained when needed in the preparation of a master plan which would take into account present and long-range needs, considering the community's resources and characteristics, and the fact that changes are inevitable.
5. Zoning and land-use are considered in the total plan.
6. Insofar as possible the natural characteristics of the terrain are preserved and exploited to the fullest.
7. In rehabilitation or redevelopment of certain neighborhoods, every effort is made to raise standards which are obsolete to a level consistent with the total planning undertaken.
8. All new developments include provision of adequate leisure-time facilities.
9. Provisions should be made for areas which may be used by organized groups as well as individuals or unorganized groups in their free time.
10. These facilities should provide for the educational, recreational, and leisure time interests of all age groups from childhood to senior citizen.

Legal Tools

We are fortunate in California in having ample legal tools, with almost unlimited powers to plan and develop the most ideal community. However man cannot live by machinery alone. These laws on Planning, The Joint Agreement Act, and the Community Recreation Enabling Act, to mention a few, are meaningless and idle tools unless they are translated into action conceived and born of creative, intelligent, and co-operative planning.

In understanding the importance of these tools, we should first recognize the distinction between a General Plan and a Master Plan. Both terms are generally used synonymously. In the northern part of the State there has been a growing movement among planners to make a clear distinction between the use of the terms, the distinction being that the General Plan is the over-all comprehensive, long-term general program for the physical development of a city, or county, or region. I would like to suggest that a Master Plan applies to a particular segment of the General Plan such as a Master Plan for a recreation-park system.

Details for Master Plan

On the other hand the details for making a Master Plan for recreation, or for schools, are more specific and take into account the economic and social aspects more materially. We cannot, however, adequately and intelligently make a master plan for recreation and parks without full cognizance of the purposes inherent in general planning. In other words, we cannot make a Master Plan in a vacuum. Some elements of planning have more of a bearing on recreation than do others. School planning is an important key to recreation planning, particularly if we accept the definition of a neighborhood as the area served by an elementary school. Recreation has more in common with the school programs too, and we should be working very closely and co-operatively with the school districts.

Fortunately, some cities during the last decade have prepared and/or adopted a General Plan and Master Plan for their recreation-park system and are well on their ways. It is imperative that communities—large or small, rural or urban—prepare and adopt a Master Plan for their future as well as their present recreation system. What we plan today is what our communities will be from now on, and what future generations will have to live with. This is a more serious responsibility than many legislative bodies and some administrators realize.

A Guide For Palo Alto

In Palo Alto we have used the following definition as a guide to planning:

A General Plan is a statement of public policy to guide the future physical development of a community into a pattern that creates a satisfying and efficient environment in which people may live, work, and play. It is concerned primarily with the best use of land; it provides guidance to direct this future physical growth of the city; it serves as a point of departure and suggests methods of attaining desired goals; and it is flexible so it may be kept in step with citizen aims and thinking.

There are three basic provisions to the General Plan: it must be general, it must be long-range (10-30 years), and it must apply to the physical development rather than to economic and social development. However, the implications of the latter two factors are taken into consideration in interpretations.

Four years ago we prepared a Master Plan for the future recreation-park system of the city as it then existed and the areas which

were apt to become part of the city during the ensuing 10 to 15 years. The population of Palo Alto in 1950 was a little over 25,000, the present figure is around 48,000, and the potential for 1970 is set in excess of 85,000. With these figures to work with we planned our projected program for recreation and park facilities.



The "Apartment House" at Mitchell Park, Palo Alto, California, provides for imaginative play experiences.

We are fortunate in having a very fine working relationship between the city and the school district in Palo Alto. Dynamic and progressive leadership in both city and school planning has been important to this relationship. We have a written agreement between the city and the school district whereby the school permits the use of school facilities for community recreation by the City Recreation Department when it does not conflict with educational purposes. The School District also pays one-third of the salaries for the supervision of the school playgrounds (See sample contract, following).

This purposeful and co-operative planning and use of city and school areas and facilities is a two-way street. We have heard, in the past, much about the use of school facilities. However, with the proper planning of joint areas and facilities, the advantages become twofold, the areas and facilities of city parks augment and supplement the areas and facilities of the schools; conversely, the school areas and facilities are supportive to city needs. The result is an enrichment of the total educational, cultural, and leisure-time life of the community.

C O P Y

AGREEMENT

THIS AGREEMENT, made this 14th day of September, 1953, by and between the PALO ALTO UNIFIED SCHOOL DISTRICT, hereinafter called "District," and the CITY OF PALO ALTO, hereinafter called "City."

WITNESSETH:

WHEREAS, Chapter 4 of Division 12 of the Education Code of the State of California authorizes and empowers cities and public school districts to co-operate with one another for the purpose of organizing, promoting and conducting programs of community recreation, which will contribute to the attainment of general recreational and educational objectives for children and adults of this state; and

WHEREAS, the District and City desire to enter into such a joint program consisting of the construction, maintenance and operation of a swimming pool on real property owned by the District in the City of Palo Alto, County of Santa Clara, State of California;

NOW, THEREFORE, in consideration of their mutual covenance and conditions, the parties hereto agree as follows:

1. District to Construct Pool. The District shall prepare drawings and specifications for and shall proceed with the construction of a swimming pool 60 feet wide and 75 feet long at the Ray Lyman Wilbur Junior High School.

2. City to approve Plans and Specifications. Before the District shall begin actual construction of the swimming pool, and before the City is committed to the expenditures of any funds hereunder, the plans and specifications for the pool shall be approved in writing by the City Engineer of City.

3. Contribution by City. Upon completion and acceptance of the pool by the District, the City shall pay the District the sum of Fifteen Thousand Dollars (\$15,000.00) or one-fourth (1/4) of the total cost of said pool, whatever is the lesser amount. In estimating total cost, engineers fees, state fees and the cost of all equipment and facilities relative to the pool operation shall be included.

4. Title in District. Title to and ownership of said pool shall remain in the District at all times.

5. Period of Use by District. The District shall have exclusive use and operation of said pool from September 10th until June 15th of each year.

6. Period of Use by City; rental. The City shall have exclusive use and operation of said pool from June 16th to September 9th of each year. In consideration of such use, City shall pay District the sum of Five Hundred Dollars (\$500.00) on or before July 1st of each year of the term of this contract. Such rental shall also include the cost of the following:

- (a) Water
- (b) Chemicals for summer use including but not limited to chlorine, soda and alum
- (c) Use of school gymnasium locker rooms for boys and girls
- (d) The salary of the school maintenance man who has charge of the filter rooms, chlorinator and other pool facilities, and who will remain on duty during the summer months, exclusive of vacation time.

7. Facilities to be Provided by City. The City shall, during its use of the pool, provide a pool manager, lifeguards, boys' and girls' locker room attendants, cashier and all other personnel and facilities not agreed herein to be provided by the District. The City shall retain admission to the pool collected during the period of use by the City.

8. Maintenance Costs. On or before April 1, 1954, and before April 1st of each year thereafter, during the term of this contract, City and District shall determine necessary maintenance costs for the next fiscal year, and City shall pay District one-fourth (1/4) of such annual costs on or before August 1st of each year, commencing August 1, 1954.

The following will be considered maintenance costs:

- (a) Muriatic acid wash of the pool once a year with complete refilling of pool.
- (b) Painting of ladders, diving platforms and other fixtures as needed.

(c) Any necessary pool painting or sand blasting

(d) Chlorinator and pump repairs as needed

It is mutually understood that no maintenance expenditure will be made without prior approval of the City Manager of City and the Superintendent of Schools of District.

9. Term. The term of this agreement shall be for a period of twenty (20) years from the date hereof and shall be subject to extension by mutual agreement of the parties hereto.

10. Liability. Each party hereto shall assume liability for any personal injury or property damage resulting from the operation or maintenance of the pool during their respective periods of use as specified herein.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed the day and year first written above.

CITY OF PALO ALTO

By/s/ James G. Marshall
Mayor

PALO ALTO UNIFIED SCHOOL
DISTRICT

By /s/ H. M. Gunn

ATTEST:

/s/ Winifred Kidd
City Clerk

APPROVED AS TO FORM:

Robert E. Michalski /s/
City Attorney

A RURAL COMMUNITY COORDINATES LEISURE TIME, LEARNING, AND LIVING FOR EVERY ONE

Herman Reise, Superintendent of Recreation
Kern County Parks and Recreation Department
Bakersfield, California

The Kern County Parks and Recreation Department is a representative of all the citizens and all the communities of the county. A county-wide system has been developed through a co-operative program with cities and communities in the county. The department assists communities, large and small, incorporated or un-incorporated to meet their recreational needs through their own efforts toward a well-organized and planned community recreation program locally managed. Assistance is given to planning to provide ways and means for recreation and cultural opportunities for all age groups, although attention is largely directed to the children and youth.

In developing a basis for the establishment of this department, special local needs were considered as to the geographic, economic, and social factors. In order to meet these special local needs, realistically, recreation commissions were formed in incorporated communities, and recreation councils in the un-incorporated communities and rural areas. The purpose of the local recreation commissions and councils is to support and preserve the mental, the physical health, and general welfare of the people of the community, and to cultivate the development of good citizenship by provision of adequate programs of community recreation as provided for under the community recreation enabling act, of the state education code. These agencies may organize, promote, and conduct programs of community recreation, which programs should serve all recreational interests of the people, and include physical activities, music, drama, arts and crafts, nature activities and social recreation, and provide for all groups without restriction as to race, religion, age, or sex.

Financing Recreation

Financing for parks and recreation is derived from the county general fund. The parks division operates and maintains all facilities and parks, and budgets for all capital outlay for new develop-

ment and acquisition of new sites. The recreation division operates on a 50¢ per capita, of which 25% per capita is allocated to local recreation areas, matched by 12 1/2% per capita by the school district within the area. The per capita for each area is figured by taking the A. D. A. of the elementary schools and multiplying it by 6.3. This figure 6.3, was obtained by dividing the A. D. A. into the last national census to find a ratio of people for each child attending school.

The matching funds are obtained from school districts and communities on a contractual agreement. The school's portion is derived from the 5% over-ride tax. These monies are deposited in the auditor's office in the recreation budget and used for salaries only. The recreation commissions and councils supply monies for the expandable supplies. The other 25¢ per capita is for recreation, administration, and special services.

Program Planning

Program planning in the local areas is done by the recreation director of that area. These commissions and council members are representatives of school boards, P. T. A.'s, school administrators, service clubs and fraternal groups and usually one member at large. This gives a good representation of the area for co-ordinated planning.

Programs are planned to have a carry over of the school program to avoid overlapping and duplication. In sports where the elementary schools have intramural activities, an after school or a Saturday morning league is organized in an inner-community program for all major and minor sports. This is not a highly organized competitive league but is designed as a well rounded program of instruction and keyed to serve as many as possible. Some of the major sports are: flag football, football skills, basketball, basketball carnival, volleyball round-up and track and field. A few of the minor are: marbles, jackstones and yo-yo.

Inter-relating activities are planned. A good example of this is the student's concerts. These are co-ordinated between the Kern Philharmonic Society, Kern county schools and the Parks and Recreation Department. The Philharmonic Society and the recreation division provide the monies for the musicians' salaries and the rent of the auditorium. The county schools furnish transportation for the children with school buses to and from each concert. Other programs of this nature are the annual art festival, drama festival and children's folk dance festival.

Personnel

Leadership is a vital element in a successful recreation program and as the majority of our positions are part time, it is impossible to get a recreation major to fill these positions, therefore we employ teachers from the immediate area as directors and leaders. When schools are employing a physical education man he is usually offered the recreation director position, thus they are able to get a better man and also gives our department a qualified leader. Other specialists are employed as part time leaders to assist with various parts of the program, such as arts and crafts, drama and dancing. Each year prior to the summer program an institute is held as an in-service training program for our directors and leaders. Outstanding persons of the recreation field lead sessions which are keyed to a grass root level.

Joint Use of Facilities

In most cases the parks are relatively new, and as Kern County summers are quite warm the schools provide one or more rooms for summer programs. During the school term the after school programs are conducted on the school grounds or in parks adjacent to the school. School buses are used for transportation for recreation programs throughout the year. By application to the individual school districts, use of athletic fields, auditoriums, and swimming pools is granted under the community services act. In turn the schools are allowed the use of lighted baseball diamonds, softball diamonds, over-night camps and the facilities within the school parks.

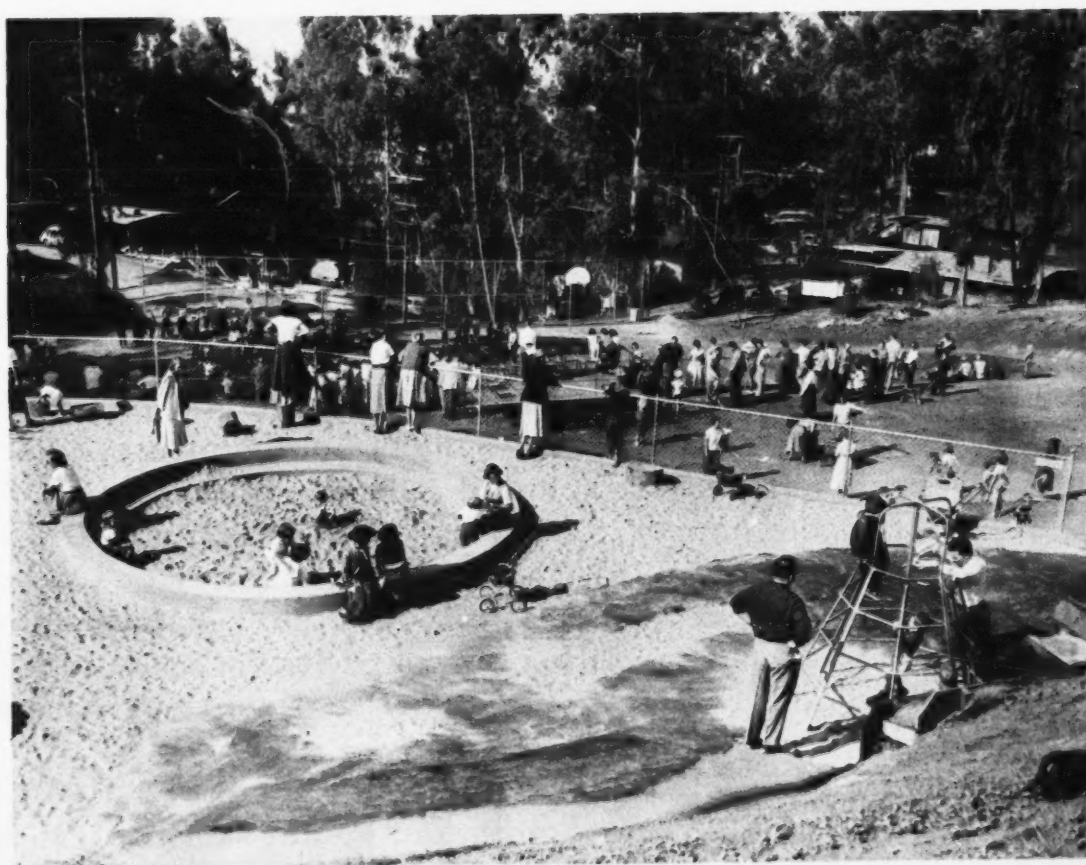
Park Sites

Parks are identified as general or local parks. General parks are those which are developed to provide major facilities not found in other parks such as: golf courses, boating lakes, camp grounds, all of which serve many communities. Local parks are of the nature that serve the local community. Of the 43 local parks in the county, 15 are adjacent to schools and range from 5 to 15 acres. For the 1957-58 fiscal year money has been appropriated for three additional new sites. The park-school concept is a combination of school facilities and park facilities to provide sufficient educational and recreational opportunities for everyone.

Sites and their development are also considered as to the geographic, economic, and social factors. In Kern County there are 4 areas; Valley Metropolitan, Valley Non-Metropolitan, Mountain and Desert. With the constant demand for additional sites, priority is based on the area with the greatest potential need.

Co-ordinated Planning

A sketch of the master plan of the acquired site is drawn up by the landscape architect. These plans are then discussed with the local recreation commission or council and changes made accordingly. Development is based on what the local area feels is their greatest need. A good example of this is in the community of Mojave where there is a park site adjacent to the elementary school. In 1953 the district voted to form a unified high school district. In the development of their athletic field they found that the school did not have sufficient land. A meeting of the school board and the parks and recreation department was held and negotiations were then made whereby the Recreation Department deeded the school district the land needed to complete their football field and baseball diamond. Another example is where land has been leased from school districts and parks developed with facilities that can be used jointly by schools and the Recreation Department. In some Recreation Department areas school districts have used their 5¢ over-ride tax to build recreation facilities. Such was the case in the City of Delano where the high school, elementary school, and city, jointly financed the building of a swimming pool next to the high school gym. The pool is used for instructional swimming by both the elementary and high schools during the school term and is available to the recreation program during the summer months.



The "Terrace Park Playground" opened in the summer of 1957 at Berkeley, California

PART 11



**DESIGN FOR LEARNING,
LIVING, AND LEISURE**

"The wisdom of a learned man cometh by opportunity of leisure."

—Ecclesiasticus XXXVIII, 24.

DESIGN FOR PURPOSEFUL LEISURE TIME LIVING

Robert Royston, Member
Eckbo, Royston, and Williams
Landscape Architects and Planning Consultants
San Francisco, California

Little is known about the influence of the suburban middle-class environment upon the children of today, and their way of life tomorrow. It is known that in all of "suburbia" there is a strong tendency toward separateness between family and community, neighbor and neighbor. In suburbia each family attempts to solve all the problems of family recreation on its own individual piece of land. There is little attempt at acquisition of community or park and recreation space which projects family participation. The rush toward private suburban dwelling with its attendant problems--overwhelming problems of solving the house and garden--have blinded a majority of the suburban dwellers to the need for park and recreation areas.

Plan for All Age Groups

The schoolgrounds, for instance, are a nucleus--a kind of open space upon which we can build. But these grounds are geared to serve only the age group for which the school plant was designed. This has made park and recreation spaces difficult to obtain. It is perhaps wrong that the only public open space becomes the schoolgrounds. It is perhaps right that the schoolgrounds can, in part, serve the needs of adult recreation. The need for schools is readily acknowledged. The need for park recreation is less readily accepted. Yet if we can agree that perhaps these specialized grounds can be developed to serve all age groups in a community--a worthy possibility--we must create a quality park and recreation development, or a proper physical environment in which use and enjoyment by the family is the objective. This is what design seeks.

For open space a sea of asphalt, and a mass of play equipment will not suffice. It should be a combination of things--open space, active areas, quiet areas, special game areas, trees and all green things, richness in spatial concepts, --all are needed. Why not? Is not this a kind of "preventive medicine?" School districts

are primarily involved with their own problems of building and teaching programs and cannot always go beyond these primary responsibilities. However, a policy which permits extension of schoolgrounds into adjacent park and recreation facilities--a policy which extends planning and use concepts throughout park and school, can greatly assist the park and recreation needs of the community, and extend school activities.

The senior citizens of Palo Alto, California, enjoy quiet games.



Joint Planning and Joint Agreements

A master park and recreation plan for any area will generally project the relationship of schoolgrounds, parks, and co-ordinated recreational facilities and program. The first step toward the solution of community needs is to project the Master Plan--understand the park and recreation needs now, and for the future. Then comes the physical design phase, the planning of what people will eventually see--including preliminary designs, models, and working drawings.

It is interesting to note that many recreation and park directors are presently recognizing that use and enjoyment of areas and programs receive wider support by all age groups when the areas are developed, planned and constructed with emphasis on quality.

Where schoolgrounds are adequate for family park and recreation purposes, in addition to regular school recreation programming

joint agreements for the development and maintenance between Park and Recreation Departments and the School District can be arranged. Where grounds are adequate for the school's needs, only adjacent lands can be acquired, fences removed, and total site space use concepts projected.

Costs of quality facilities and land development vary from 20¢ to 40¢ per square foot today--less expenditure than this means added maintenance cost or areas which are either poorly used or not used at all.

The frontier--the readily available open space for escape is gone. The time has come for re-evaluation of the areas in which we live, work, and play. The time has come to think, plan, and act for the future. The open spaces in our communities should be adapted to the importance of human values in the world of today.

IMAGINATIVE DESIGN FOR IMAGINATIVE PLAY EXPERIENCES

Amedee M. Sourdry, Landscape Architect
Oakland Park Department
City of Oakland, California

Children respond to imaginative play experiences. They make the most of whatever is at hand--whether it be an old hollow log in a vacant lot, a cave in a cliff at the beach, or a colorful fiber-glass play sculpture in city schoolyard, or public park. Certainly all of us can remember high points of our youth when that rope hanging from a tree over the "old swimming hole" became more than just a means of diving into the water.

Since the majority of city children in 1957 rarely have access to many of the natural play experiences we had as children, it certainly is a responsibility of officials of school, park, and recreation departments to provide for this outlet in their jurisdictions. How can we do this job then with creative imagination? After the basic decision to have such facilities is made, the primary problem is one of design. The professional who should control the space is the Landscape Architect. He should then be responsible for calling in whatever engineers, sculptors, and artists, or whatever category is needed.

Children seek imaginative play experiences in Mitchell Park, Palo Alto, California



Imaginative Design

From the beginning it should be understood that having an imaginative play area is more than buying a few pieces out of a catalogue and placing them on a field of tanbark and fencing them in with 100 feet of six-foot chain link. There are some very good commercial play sculptures being marketed and at a reasonable price. Most satisfying, however, is the relationship with local craftsmen who can take pride in achievement. The Oakland Park Department's experience in this regard has been most satisfying. Having available steel fabricators who were artists in their own right to translate from model to full scale without benefit of cumbersome drawings or unnecessary specifications has made it possible to provide the children of Oakland a truly imaginative play experience.

This play experience, reduced to its physical elements, means simply sliding, jumping, crawling, rolling, climbing, sitting, lying, and swinging. The overtones of the mental and psychological relationships make for the added values.

The form and color, aside from the actual functional need, have a great bearing on the stimulus received by the children. Design criteria for creative play facilities including safety, ease of maintenance, beauty, circulation, educational value, value of it as experiment in the use of new material or construction technique.

Design Aids Maintenance

Proper design can make a facility easy and economical to maintain. The Oakland Park Department has experienced very little vandalism, and what it has suffered has been where maintenance has fallen down. When an area is allowed to run down, paint to peel or become drab, flower borders seedy, or a ground area littered, the incidence of vandalism is accelerated.

Importance should be given the choice of materials used in park and school facilities design. Polyester resin re-enforced with fiberglass has proven to be a versatile material adaptable to many uses. The sculptors' technique of stucco or magnesite over a steel armature has proven itself a cheap and efficient way to build play sculpture and small park structures. First cost should not be the only criterion in decisions as to use of a material. Sometimes it is cheaper in the long run to go first class and settle for what might seem to be a luxury. Stainless steel drinking fountains come in this category because they are easily cleaned and attractive over a long period of time.

Careful color control can add to the enjoyment of a facility. It should be true in a school environment as well as in a park. Bright, cheerful pastel colors have proven to be an integral part of "imaginative areas" in Oakland. What we have found there has carried over into the use of color in otherwise prosaic areas.

Public school, park, and recreation officials will never solve the complex problems of the coming era of education for life and leisure unless they use the creative and imaginative approach at the administrative level that has been used to solve design problems.

RECOMMENDED STANDARDS FOR NEIGHBORHOOD PARK-PLAYGROUNDS *

Facilities designed to serve children, youth and families of the immediate neighborhood;

One park-playground to every 4000-5000 persons: service radius of one-half mile;

Play apparatus for children under seven years, for children over seven years, separately identified;

Asphalt or bituminous court area for basketball and other games;

Multi-purpose concrete slab for dancing, skating, and court games requiring a hard surface;

Open turf area for low organized games and sports, softball diamond;

Picnic islands, landscaping, benches, drinking fountains, walkways and other appurtenances.

* City Recreation Department
Palo Alto, California

FOR TODAY'S CHILDREN: FREE FORM, FREE PLAY

Will Gahagan, Teacher
Tularcitos School
Carmel Valley, California

The citizens of the City of Monterey, California, have witnessed the remarkable transition of a former unsightly refuse dumping area becoming a beautiful and unique playground facility. The "Dennis The Menace Playground" story is inspiring, and should be of interest to small cities throughout the United States. Especially, it will be of interest to cities which feel they do not have sufficient manpower or financial resources to build an elaborate children's fantasy land.

In the Fall of 1952 the Monterey City Planning Commission, in considering a Master Plan for Kake El Estero Park, designated approximately one and one-third acres of the park as a site for a children's playground development. The Monterey Peninsula Junior Chamber of Commerce later approached the City Council with an offer to raise money for equipping the playground, if the City would provide the landscaping, fencing and the installation of the equipment.

A stir of community interest indicated that considerable support was forthcoming not only through support of the fund raising events, but through donations of labor, as well. It was felt throughout the area that here was an unusual approach to playground construction, and if it should prove successful, other communities would derive benefit of the experiment.

By June of 1955 the JayCees had raised approximately \$5,000.00 for their project, and Mr. Hank Ketcham, creator of "Dennis the Menace" had completed drawings of several play equipment designs. He contacted Mr. Arch Garner, artist-sculptor, to execute these designs into a scale model to illustrate the entire playground layout. Unanimous approval was accorded the model by the JayCees, the City's Recreation Commission, Planning Commission, and the City Council. The model met with overwhelming public approval.

Actual construction began in September of 1955. The playground area was graded, while drainage and sprinkling facilities were installed by the City's own forces. The JayCee's employed a welder who utilized City facilities to fabricate the equipment pieces under the direction of Mr. Garner. Occasionally "bugs" in structural detail had to be ironed out, but eventually one piece, and then another, came into being. As soon as each piece of equipment reached the stage of completion where it was felt safe for children to play on, it was moved to the playground and mounted on a foundation within an area of pure white sand, 18 inches deep. The arrival of each piece of apparatus at the playground became a big event to youngsters and parents. Continued study was given to (1) Was it really safe to play on? (2) Was it built strongly enough to stand up under the treatment the children would give? and (3) Did they really like it?

After the three conditions of use were satisfied, the items were ready for a protective covering for their outdoor use. Again more experimenting was necessary to meet the problems of overcoming the deterioration effects of our local salt air and the heavy usage. Finally a uniform product, Polyester Resin, was selected. It appears to have the desired qualities and also the adaptability for color.

The project has proved the validity of several theories of recreation: (1) Children seem never to tire of something which provides both exercise and an outlet for imagination, (2) Parents will bring their children to an "out-of-the-neighborhood" playground and stay with them to provide parental supervision, and (3) Playground equipment does not need to be stereotyped in order to be safe, practical and within a reasonable financial range.

Several methods were used to conserve finances. Donated labor from union groups, welding firms, and also through people who "just appeared" at the playground on their day off from work was used extensively. Materials were purchased through competitive bid procedure by the City, using JayCee funds deposited in a special agency account, and JayCee labor was used to a great extent. The total estimated cost of the project is \$30,000.00, and represents \$7,500.00 expenditure by the Jay Cees, \$7,500.00 expended by the City for materials and approximately \$15,000.00 cost to the City for paid man hours.

As any manufacturer will tell you, a pilot model is quite expensive. Many man hours and many dollars are spent in the pursuit of an acceptable product. Once over this experimental phase, the cost factor is greatly diminished. This principle applies also to playground development.

For this reason, our time (three years from idea to playground opening); and our cost (roughly fifteen thousand dollars for equipment) has very little meaning to you. A more realistic set of figures can be obtained by submitting the available plans and specifications to construction specialists in your community. Therefore we urgently recommend that you invite a group of creative townspeople to work as a part of your playground committee. Our plans can be amplified, changed, simplified, or replaced by ideas more applicable to your terrain, your weather, and your community pocketbook.

The "Dennis The Menace Playground" which opened November 1956, has been a magnet during its construction for the young and the old alike, and the play apparatus now in use includes the following:

Old Number 1285

A steam switch engine built in 1924, weighing 155,000 pounds, with a 50,000 pound tender, was donated by the Southern Pacific Company. Old Number 1285 was moved from the railroad siding through the co-operation of Company C of the 84th Engineering Battalion, U. S. Army, Fort Ord, California. The fire doors are welded shut, two stairways lead to the cab, and safety hand rails have been welded on.

Umbrella Tree

The limbs of this ideal climbing tree are so spaced that no hand-hold is ever out of reach of the small climbers. The supporting poles make excellent sliding for young "firemen." Constructed of 3/4 inch and 1/2 inch steel reinforcing rods, the platform and breeze

RECOMMENDED STANDARDS FOR PARK-PLAYGROUND DEVELOPMENT *

(One Acre Per Thousand Persons Distributed as Follows)

TYPE OF FACILITY	PARK	SCHOOL
Neighborhood Park-playground (adjacent to elementary school)	3-4 acres	2-3 acres
Neighborhood Park-playground (independent of school site)	5 acres, minimum	
District Park-playground (adjacent to junior or senior high school site)	20 acres, minimum	10-15 acres
District Park-playground (independent of school site)	30 acres, minimum	
Addition Special-services Areas		
Athletic Center	20 acres	
Municipal Golf Course	150 acres	
Mountain-type Park	100 acres, minimum	

*City Recreation Department
Palo Alto, California

area (middle section of the top) are made of expanded metal. The wavy section of the top is made of glass mat impregnated with polyester resin and formed on a mold by JayCees. The top cone is a steel frame covered with the same plastic. The ball on top? An old volleyball covered with plastic.



At Monterey, the Umbrella Tree appeals to the active child.

The Thing

Is it a Space Ship, a Bird, a Fish? To each child it is a different object for sliding, climbing, hiding, jumping, crawling, and pretending. This free-form piece of equipment is constructed of steel rods, sheets of expanded metal, and is covered with plastic in bright colors. THE THING is 40 feet in length, 8 feet in height.

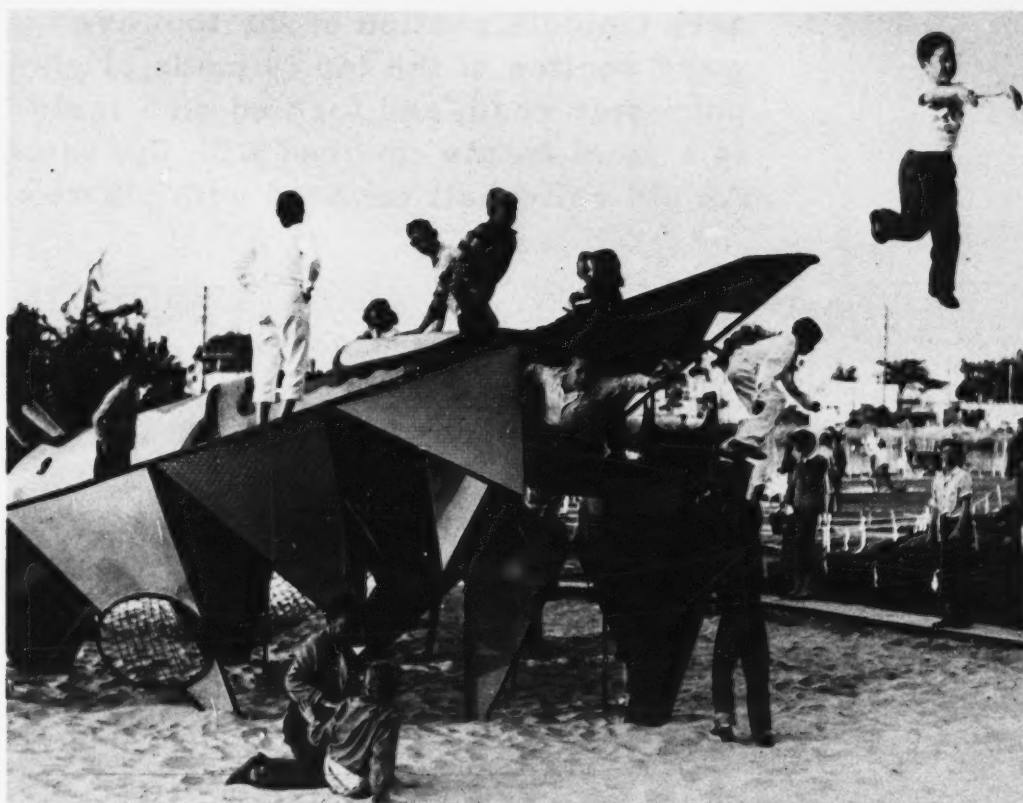
The Play Mountain

A "Giant" mound of earth, its surface covered with miniature roads, tunnels and houses for toy car traffic.

Flying Swing

Designed for a long, swooping ride, this crane-like device is constructed of steel reinforcing rods, tubular steel, and 17 gauge deck plate, and stands about 15 feet high at the apex. The working mechanism was made by a local mechanic using two large thrust bearings donated by a local tractor company. It incorporates a tilted-axis principle of such delicate balance as to enable a rider

Is it a Space Ship, a Bird, a Fish? To each child "The Thing" is a different object for pretending.



to propel it merely by shifting his weight. The Flying Swing is also covered with bright plastic.

The Spring Gym

This twelve foot high spiral is constructed of sections of 2-1/2 inch galvanized steel pipe welded together, rolled into circles, and pulled out like a spring. It provides a springy climbing apparatus from which the youngsters like to jump into the sand or slide down the center pole.

Balancing Bridge

For "walking the back fence" in safety. The Balancing Bridge stands 18 inches high and is 8 feet in length. It, too, is constructed over a sand pit.

Lion Drinking Fountain

This humorously sculptured device is a friendly lion six feet high made of fiber glass. Children enjoy putting their heads in the lion's mouth to get a drink of water. The water valve mechanism is designed to permit even the very "Small Fry" the opportunity to have a drink, even if they must climb up unto the lion's haunches.

Coasting Course

This is an 80 foot concrete "hill" for organized contests, or spontaneous events.

Tricycle Course

A real concrete "road" for tricycles and roller skaters. Appropriate road signs in miniature teach traffic lessons.

Maze

The tricycle course leads into an intriguing maze of colored plastic covered telephone poles, which have been carefully sanded smooth. There is a carved totem pole in the center.

Wading Pool

The pool is 15 feet by 40 feet with 4 inches of water. Colored plastic forms of fishes and marine life, as found on local beaches, are imbedded in the bottom surface. In one section of the pool is a free-floating raft constructed of styrofoam and wood, which the children can ride.

The Raft

For young Huck Finns, the Raft is 10 feet in diameter and constructed of wood and styrofoam. It is anchored in the middle of the 1 foot deep pool by a heavy chain which permits movement to within 6 inches of the curb on any side. The surface of the Raft is covered with red plastic into which sand was sprinkled to provide a non-slippery surface.



For young "Huck Finns", the raft stimulates excitement.

Rolling Hills

Merely dirt molded into an interesting contour and planted with grass. Fun to run barefooted, to hide, to roll down.

The Little River

Winding for approximately 30 feet downhill, and fed by a stream of fresh water, the Little River appeals to the same basic urge a child feels in watching a rain-filled gutter. The result? Floating leaves, sticks, and toy boats.

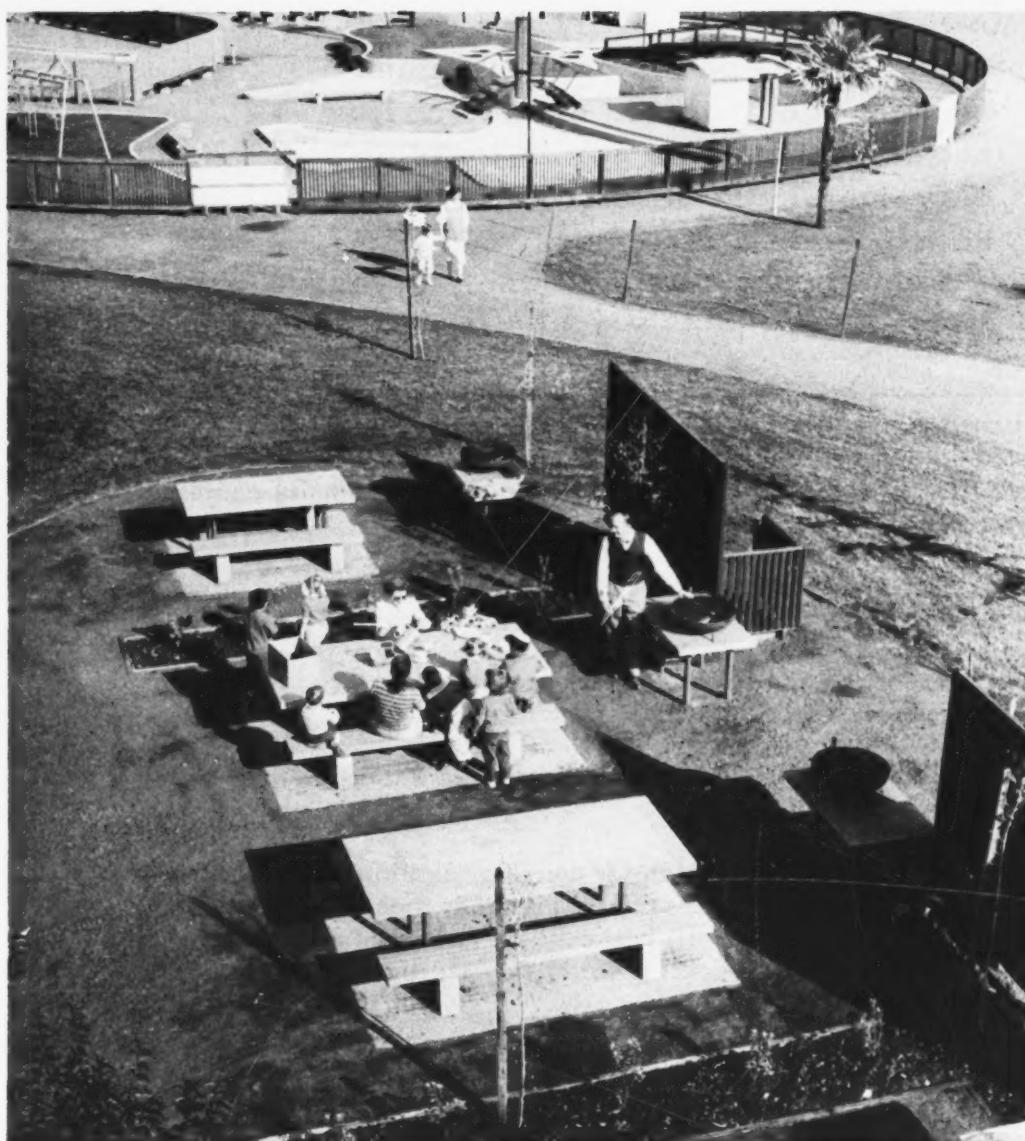
Mountain

A built up mound of earth, planted with hardy ground cover, with small concrete roads for toy cars and trucks. Winding down this miniature mountain is the "Little River."

DESIGN FOR ACCIDENT PREVENTION AND MAINTENANCE CONTROL

Harold D. Givens, Superintendent of Parks
Berkeley Recreation and Park Department
Berkeley, California

Volumes have been written on the subject of Preventive-Maintenance but accidents continue to happen. Automotive engineers design and build cars practically hazard-free and leave it to us to use this sane equipment so insanely, we kill ourselves in them. As a whole, park and playground equipment manufacturers follow the same method--they provide us with comparatively hazard-free equipment and then we may or may not err, depending upon our own intelligence, training and sense of social responsibility. And I believe that our sense of responsibility to people in the park, the family around the picnic table and the children on the playfield, is the really vital part of preventive maintenance, or preventive accident or whatever you may wish to term it. Do you have a park or playground crew foreman who allows stripped lumber to lay on the ground with exposed nails; a skill saw plugged in near inquisitive children; a newly constructed chain link fence with the upper edges unknuckled; a field repaired power mower with its engine running and unattended? I'm very happy this does not happen to



Families enjoy "togetherness" in picnics.

you. This is old stuff to you but not to the child who runs a rusty nail in his foot or gets his hand sawed off. Energetic training, field organization and a line of command with teeth in it are the prime requisites of the modern approach to preventive-maintenance. Your accident rate will never be materially reduced in any other way.

Safety Training Program

It then follows that a really live safety training program within the department on company time should be a bi-monthly, one-hour procedure. It should be made mandatory that every man in any way connected with park or playground maintenance work, be present, take part, keep notes and be subjected to examinations periodically. The subject matter should not be just in theory but actually applicable to the daily work at hand--to San Francisco's Golden Gate Park; to Sacramento's Land Park or Berkeley's Live Oak Playground. Foremen must be taught that if they are to be delegated important responsibility where health and welfare of people is concerned, they will assume that responsibility and diligently guard against carelessness by their men.

These acquired tools of knowledge, responsibility and willingness may then be intelligently applied to the park and playground field to promote a preventive-maintenance program of merit. How to place a pitchfork on the ground; how to manage power tools on a playground; how to assemble play equipment so heads would not be bumped and bodies bruised; how to strip a clubhouse wall without leaving nails exposed is very important to the children, to your city's insurance company, and to your own longevity in office.

* City Recreation Department,
Palo Alto, California

RECOMMENDED STANDARDS FOR DISTRICT PARK-PLAYFIELDS *

Facilities designed to serve all age groups and family-centered recreation;

One park-playfield to every 20,000-30,000 persons, or a group of four or five neighborhoods; service radius one mile;

Play apparatus for children under seven years, for children over seven years, separately identified;

Asphalt or bituminous court area for basketball and other court games;

Multi-purpose concrete slab for dancing, skating, & court games requiring a hard surface; stage for outdoor theatre purposes; special courts-bocce ball, horseshoes, paddle tennis, roque, shuffleboard, tennis; quiet area for adults; picnic area.

Recreation building and swimming pool.
Landscaping, benches, drinking fountains and walkways.

DESIGN TO PROMOTE A PREVENTIVE- MAINTENANCE PROGRAM OF MERIT

Mrs. Luell W. Guthrie, Acting Director
Physical Education for Women
Stanford University, California

• Quality is Important

Select quality materials. The least expensive is not always the most economical in the long run.

Quality inspires respect. This should be an aid in checking vandalism and a general lack of care on the part of users.

Check carefully installations of some years standing to determine wearing quality.

Schools and communities are not in a position to experiment with new ideas and "Gimmicks." Let others do it before you.

- **Upkeep is Important for Economy and Accident Prevention**

Regular daily check-ups on equipment and facilities should be made whether in use or not.

Devise a simple system for reporting "wear and tear" or accidental breakage immediately.

Constant cleanliness in all areas and facilities costs less than special projects to eliminate grime, filth, rust, weeds, etc.

Maintenance personnel should make regular inspections of all facilities and equipment within their own jurisdiction. This should be a joint school-community arrangement.

Anticipate future repair and maintenance needs so they will be included in next regular budget requests and not as special emergency projects which are always more costly.

- **Facilities--a Joint Planning Project for Economy**

Plan for easy access by school and community when and where there is joint use or possible joint use.

Adapt facilities and equipment to the various age groups and activity interests of your particular community and to its peculiar community interests.

Use adjustable items where possible. Avoid solid unadaptable built-ins where there is to be joint use.

Provide proper and adequate storage space for facilities and equipment in constant use, occasional use, and according to personnel who has to handle it. Planning for efficient storage is definitely a time and money saver.

Simplicity is good economy. Avoid "gingerbread" and "space fillers."

Establish good basic plans that are adaptable to various needs and uses.

• Accident Prevention

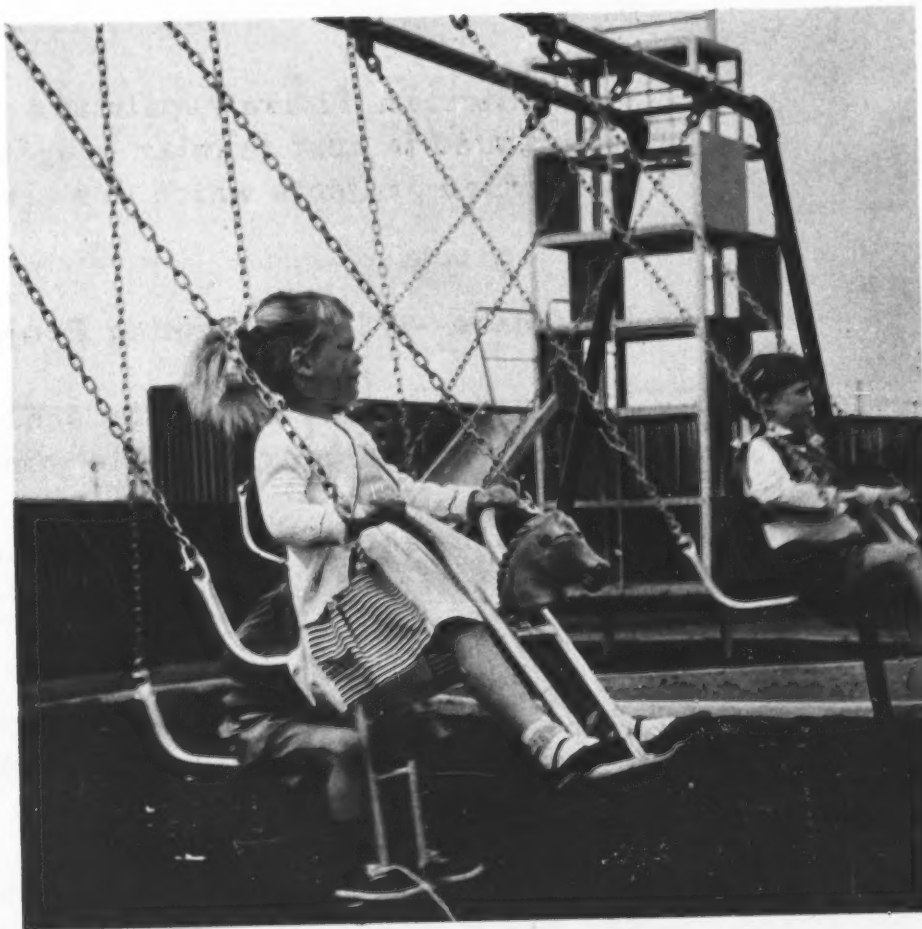
Control and limit use of a facility in need of repair so that further damage can be prevented until it can be repaired. This will prevent a major repair job as well as a possible accident. Avoid being charged for negligence!

Regular inspections and upkeep will cut costs in large maintenance bills and prevent situations and possible suits occurring where "an accident is waiting to happen."

Maintain sufficient personnel to service and supervise areas, facilities and equipment properly. This is an important phase of joint planning economy.

Install "Free forms" which eliminate sharp corners and help prevent accidents.

Accident prevention is economy.



Children's swing area should be carefully protected

• Area Planning Should be a Joint Project for Economy

Avoid lawn areas too extensive to be taken care of properly by available water supply and gardeners, etc.

Choice of new planting of trees and shrubs should be considered

as to speed of growth, possible height, size, color, color background, possible undergrowth and irrigation requirements.

Need for spraying and insect control must be considered.

Control planting by having experts with vision submit a long-range plan to avoid heavy thickets and other undesirable results which might encourage vandalism because of areas difficult to supervise.

Extra supervision or gardening problems add to maintenance expenses.

Make sure there are repair guarantees accompanying facility and equipment installation so that problems arising during the first term of use can be remedied without extra maintenance charges.

- "Weather Wear" Can be Very Costly

"Weather wear" is an important consideration. Hard surface areas must be carefully planned, constructed and site-selected as to use, drainage problems, sun, wind, sand, dirt and dust, and traffic patterns the area.

Keep surfaces clean. They will last longer and help prevent accidents.

Keep painted surfaces properly painted to prevent rust and unseen deterioration.

- Know Your Laws and Codes to Prevent Budget Drains

Consider all legal aspects prior to making installations. Time spent in study of codes, etc., saves money in the long run and prevents a second installation to remedy a situation, and avoid unpleasant suits due to ignorance or negligence.

Consider legal aspects prior to use of "fad" items or "homemade" items. They are often not the most economical in the long run.

Let others experiment with "gimmicks" but not you as joint school-community planners.

- Joint Financial Planning is Economy

Careful planning and joint planning in selection of equipment and facilities is most economical.

Keep within budget. Maintain quality rather than quantity.

Be sure the facilities or equipment are acceptable in their proper role of use before final architectural acceptance.

Purchase items with simplicity of upkeep in mind.

Custodial personnel do not have the time to spend solely in repairs. They should be concerned with upkeep and maintenance.

- In Conclusion

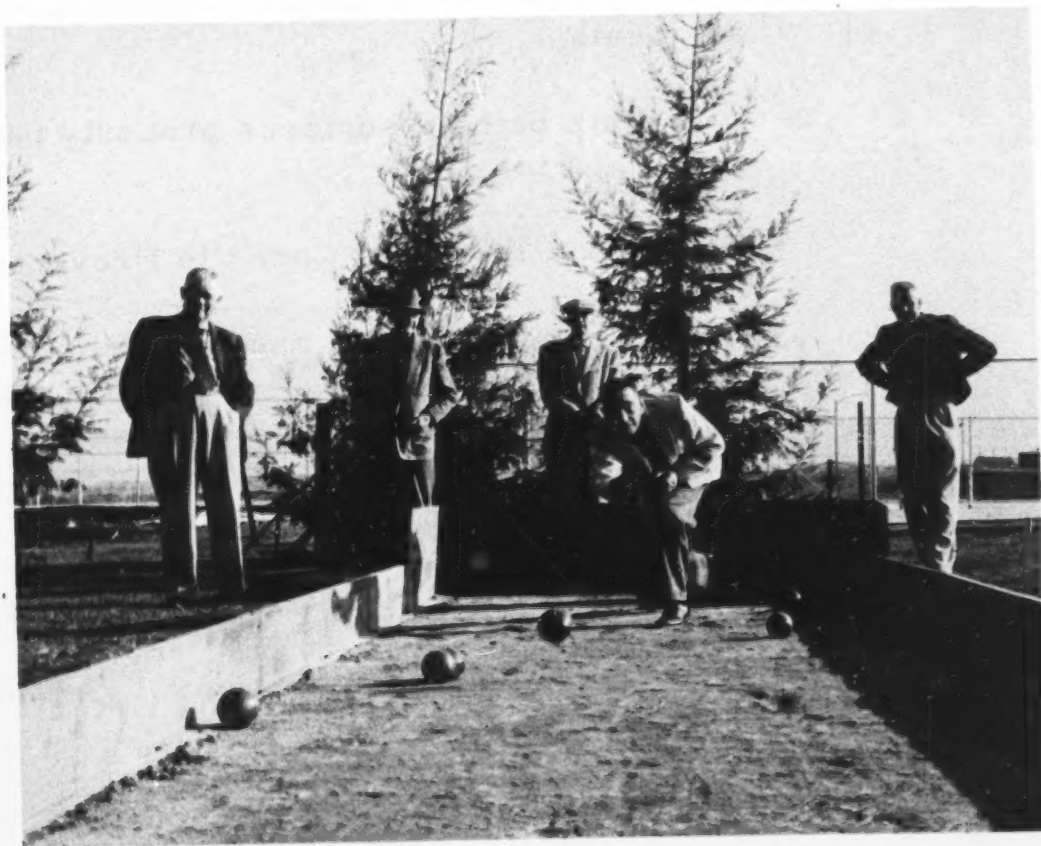
Joint planning for a quality school-community product is the best maintenance prevention.

Immediate repair is the best accident prevention--and is the most economical.

Use the budget for quality time-tested purchases and investments rather than quantity or something "new and totally different" from standard brands.

Joint master-planning is more economical than piecemeal projections by the school and community recreation departments separately.

Adults enjoy active recreation and exercise of competitive prowess.



PART 111



BALANCING QUALITY AND ECONOMY IN SCHOOLHOUSE PLANNING



James MacConnell, Director of The School Planning Laboratory, Stanford University and Paul Rivers, Chief of the Division of Schoolhouse Planning, State Department of Education view school plans.

SELECTION OF THE RIGHT RESILIENT FLOORS

Paul Wagner, Assistant District Manager
Armstrong Cork Company
San Francisco, California

During the last few years the resilient flooring industry has developed a number of radically new products which fit into the school flooring problem. At the same time new types of construction make it even more difficult than before to pick the right floor for the area involved.

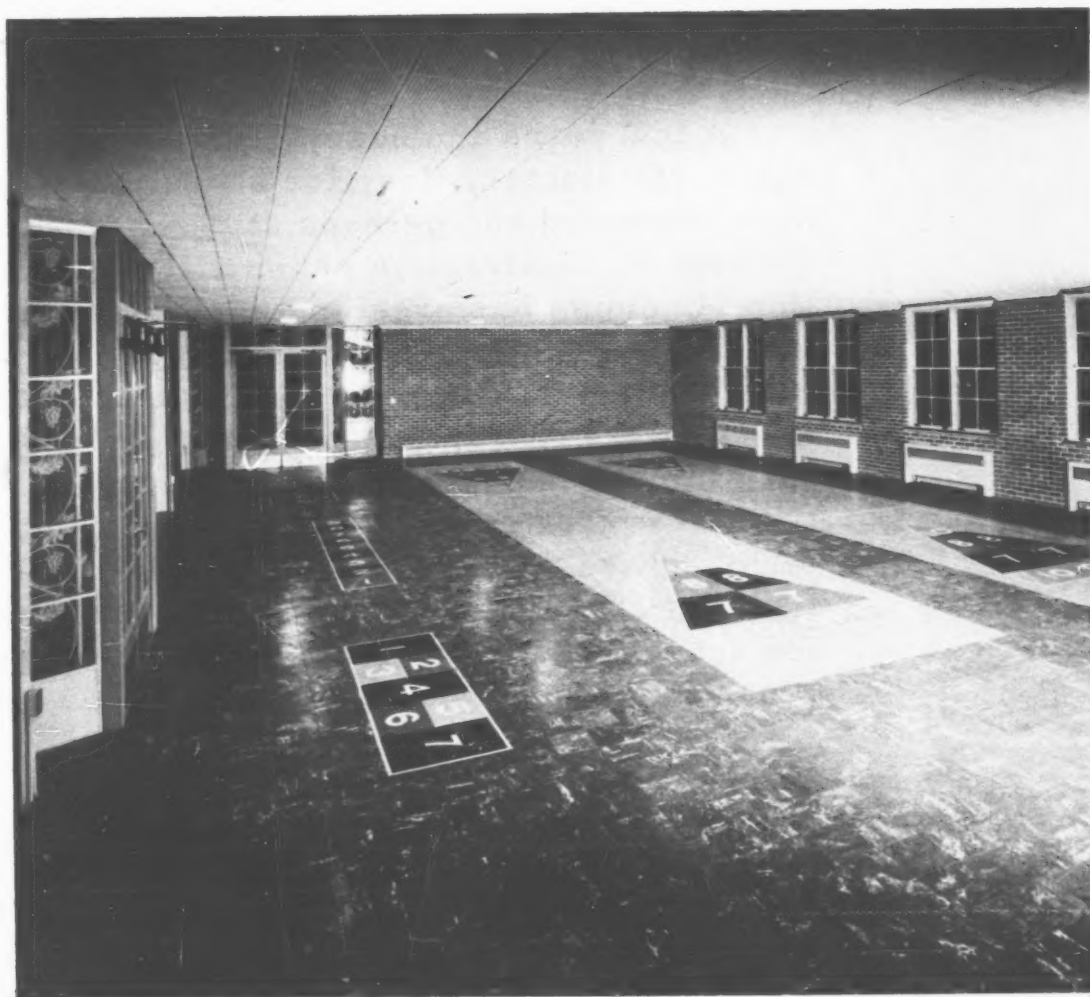
A few years ago heavy gauge linoleum was considered the only really satisfactory floor for school construction. Linoleum has been improved and perhaps still represents the best value where the type of construction permits its use. In resistance to indentation, linoleum has excellent characteristics since it will withstand a static load of 75 pounds per square inch without permanent indentation. Linoleum is almost seamless and its use therefore avoids the many seams characteristic of the various types of tile. Heavy gauge linoleum is manufactured in both so-called "pattern goods" as typified by Textelle and "battleship" linoleum which is the usual term applied to plain material. The battleship linoleum is just a little bit cheaper, but usually the pattern type is more practical for school use. The installed cost of heavy gauge linoleum in school type work will run from 45 to 55 cents per square foot.

Floor Covering for Concrete

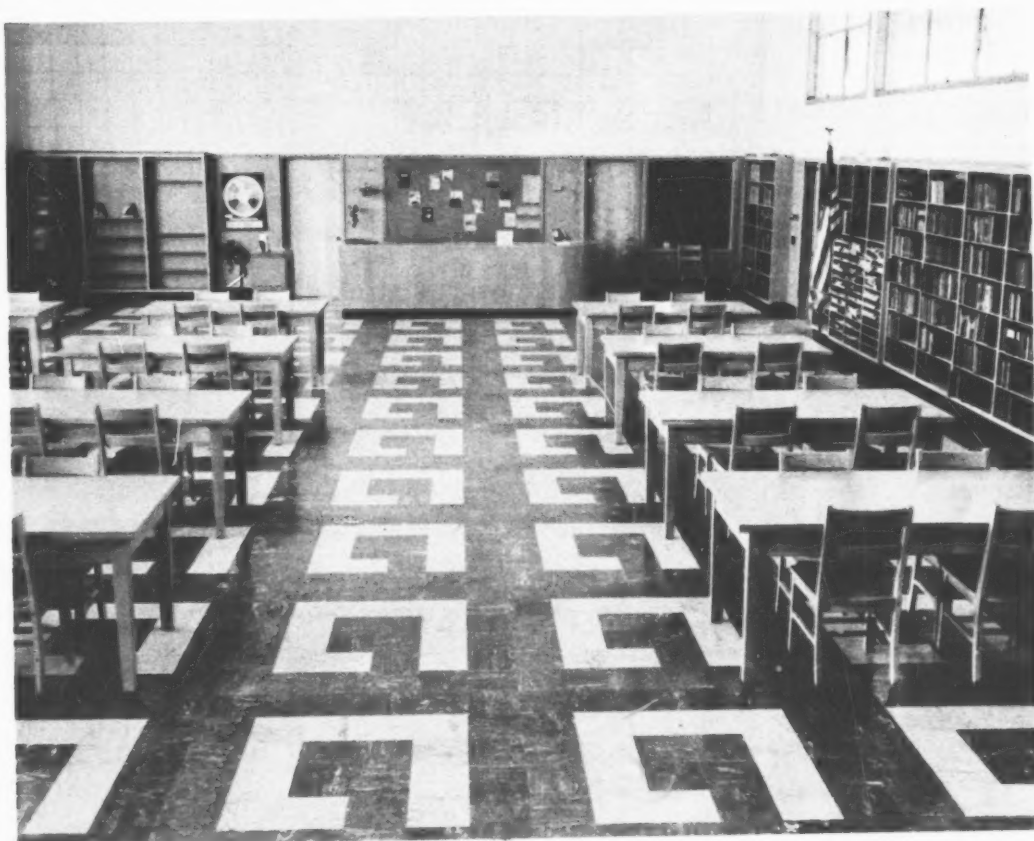
Much of the new construction today is of the concrete slab, single story, type, and it is this type of school construction which has until recently given the most concern as to flooring material. It is not possible to recommend linoleum for this type of construction due to the possibility of moisture in the slab. Until recently asphalt tile was the only floor covering which was safe for installation on a concrete slab in direct contact with the ground. Asphalt tile is still being used in many schools, although it does have so many disadvantages that the great majority of architects and school officials are recommending instead a comparatively new flooring material which can be installed on concrete slab subfloors. This

material is vinyl asbestos tile, made by all manufacturers of asphalt tile under various trade names. This material is similar to asphalt tile in the way it is installed and in its "feel" underfoot. It has the same weakness so far as indentation is concerned, in that it will only carry a static load of approximately 25 pounds per square inch. Vinyl asbestos tile does, however, have a great many advantages over asphalt tile. It is far less porous and as a result is much easier to maintain. School maintenance people who have experienced difficulties with asphalt tile in varying degrees are enthusiastic about the vinyl asbestos type of flooring. These tiles come in a wide range of colors and designs as contrasted with asphalt tile. All colors in the vinyl asbestos type of material are sold at the same price, while in asphalt tile the lighter colors are more expensive. The vinyl asbestos tiles, because of the vinyl content, have stronger, brighter colors. It is possible and much more practical to use the lighter colors which are so much in favor in school work if vinyl asbestos tile is used.

Insets are inserted in either vinyl, asbestos, or asphalt tile floors.



While vinyl asbestos tile is manufactured in several gauges, the heavy gauge, or 1/8 inch, is recommended for school use. This is the gauge covered in Federal Interim Specification L-T-751, Type 1. The cost of this material will be about the same as heavy gauge linoleum, 50 to 55 cents per square foot installed in school facilities.



Rubber tile insures a quiet floor.

Other flooring products available for installation where the construction is concrete on grade would be the so-called homogeneous vinyl type of tile, which could be installed for approximately \$1.00 a square foot; rubber tile, which would vary from 70 to 80 cents per square foot, and, where the slab is suitably constructed, cork tile for certain specialized uses. Cork tile could be installed for from 65 to 85 cents per square foot. These higher priced tile materials, while not normally used in school classroom areas, would be desirable in certain specific areas where cost permits. Both rubber tile and cork tile are suitable for library, auditorium, and office areas and the homogeneous vinyl type of tile, which is highly resistant to most chemicals, is suitable for laboratories and other areas which might be subject to unusual spillage of various solutions.

Floor Covering for Suspended Subfloor

A brief summary would indicate that linoleum would be the best material where the subfloor is suspended. Vinyl asbestos tile, at about the same price, can also be used on suspended subfloors, especially where these suspended floors are concrete. For wood floor construction, either new or of the remodel type, linoleum is much to be preferred since small movement in the wood subfloor will not have the damaging effect that it may have in the case of any comparatively rigid tile material. Linoleum is excellent from a maintenance and from a wear standpoint. It will outwear asphalt tile and will require much less maintenance expense. It should be remembered that in linoleum you have a virtually seamless floor.

Floor Covering for On-Grade Construction

For on-grade construction vinyl asbestos tile would be the best for most school areas, and it certainly represents more value than any other type of material which can be installed on grade. Asphalt tile can also be used where the original cost is the prime consideration. It can be installed for as low as 25 cents per square foot and represents an excellent floor so far as first cost is concerned. Consideration should be given, however, to the advantages mentioned above in the vinyl asbestos material, which can be installed for so little more and which has so many advantages.

TILE AND ITS USES

Emil te Groen, District Manager
The Cambridge Tile Manufacturing Company
Redwood City, California

The tile industry endeavors to promote the use of tile where it can be utilized economically and in good taste. The intent of the tile industry is to build trade on friendship and quality of product. By using tile properly, a long time savings can be realized in the form of preventive maintenance, and a program is instituted with two school planning objectives in view: 1) Design and Color and 2) Materials and Installation.

Design and Color

One of the criticisms that is often heard in regard to functional buildings is the lack of attention given to esthetics. Some feel that functional buildings are sterile and cold. This is due to a difference of artistic tastes. Certainly a large number of architects have been able to design functional buildings that have pleasing designs.

The improvements in the tile itself are evident in the wide range of colors that are available for the architect to use in working out any desired pattern or effect that he wishes to create. Another improvement in tile has been in its surface texture. It is possible to obtain a bright, highly reflective glazed surface, or the subdued surface of unglazed tile. A wide variety of sizes and shapes plus color adds to its flexibility in design and color.

Materials and Installation

One of the improvements in installation--"the thin-setting-bed-method"--involves the use of ceramic tile adhesives. In the installation of the unglazed ceramic mosaic, the Cambridge Tile Company has combined the thin-setting-bed-method with a method of mounting the mosaic on webbing. This flexible webbing remains on the back of the tile and becomes a part of the binding which holds the patterned 12" x 24" panels of tile in place as it is installed. Many architects are cognizant of the fact that these improvements in tile and its installation have been taking place. As a result, much greater use is being made of tile in all forms of its traditional uses as well as an integral part of the design of the building to add beauty and color.

Through the efforts of educators and architects, the ornate schools have been replaced with functional buildings designed to expedite the education of children. The tile industry recognizes its role in this endeavor and is continuously improving its products by adding permanent beauty. In addition, preventive maintenance can be accomplished through a more liberal use of tile as a decorative material because of its durability and permanence.



Tile specialists, Farnal Francis and Emil te Groen demonstrate installation of tile.

ECONOMIES OF COMPLETE, YEAR-ROUND AIR CONDITIONING

Z. A. Marsh, Director of School Activities
Minneapolis-Honeywell Regulator Company
Minneapolis, Minnesota

Today, air conditioning is considered common place to most people. But while they have learned to expect it in places of business and to want it at home, many of them still consider air conditioning as less than essential or at least less than necessary in schools. Only during the past few years have limited studies been conducted to prove that air conditioning is essential not only in offices, hospitals, and manufacturing plants but also in schools in order to improve the efficiency, productivity, and health of the occupants.

Air Conditioning Defined

But first, what kind of air conditioning is being discussed? According to the latest definition of the American Society of Heating and Air Conditioning Engineers:

Air conditioning is the process of treating air so as to control simultaneously its temperature, humidity, cleanliness, and distribution to meet the requirements of the conditioned space.

Not too long ago, air conditioning was considered by most people to be summer cooling, and the real purpose and definition of air conditioning was misunderstood. Fortunately, more and more people are beginning to understand that a complete air conditioning with sufficient flexibility to meet the requirements of the conditioned space is needed. In the discussion to follow, only year 'round air conditioning installations have been considered.'

A Complete and Flexible System

The parts of air conditioning included in the definition which was just stated constitute a complete and flexible air conditioning system as compared to a system which is less than complete and flexible.

A complete and flexible system provides for:

1. A source of heating and cooling which is adequate to meet the requirements of the conditioned space.
2. The control of temperatures to meet the requirements of each individual space.
3. The provision for adequate humidification and dehumidification to meet the moisture requirements of the conditioned space.
4. The adequate removal of dirt and other air borne particles and odors from the air.
5. The introduction of outside air in sufficient quantities to meet the ventilation requirements of each individual space.
6. The introduction and distribution of conditioned air to each individual space without drafts and at an acceptable noise level.

A less than complete system may:

1. Have insufficient capacity to provide for adequate heating and cooling at design temperatures.
2. Fail to provide for the control of temperatures to meet the requirements of each individual space.
3. Fail to provide for adequate humidification or dehumidification to meet the moisture requirements of the conditioned space.
4. Fail to remove a sufficient quantity of dirt and other air borne particles and odors from the air.
5. Fail to introduce enough outside air to meet the ventilation requirements of each individual space.
6. Introduce air to the conditioned space in a manner which causes drafts, high noise level, and in quantities which do not meet the requirements of each individual space.

Human Body as a Heat Machine

The human body is actually a human heat machine. Its reaction is changed by daily input and output of energy, skin temperature, and

body temperature. An individual becomes progressively fatigued when certain bodily functions like heart rate, blood pressure, and oxygen consumption do not return to their lower level after each work period. A warm humid environment is more tiring than a cool one. This is true, according to physiologists, because working in high temperatures produces more stress and fatigue appears sooner. In surroundings with a temperature above 90 degrees, the human body does not return to its lower physiological levels even when it is at rest. When people are too tired, they work more slowly and with less effort and they make more mistakes. In industry, fatigued workers are a safety hazard, to themselves and others. They wreck the teamwork so essential to smooth running production lines. From the human standpoint, these workers are likely to be unhappy because they are overtired. And eventually, their health as well as their morale may be affected.

Air Conditioning for Efficiency and Productivity

For this reason, more people are changing the question: "What will air conditioning cost?" To: "What will it cost to be without air conditioning?"

There is very little sound scientific data to prove the percentage increase in office and factory workers' efficiency and productivity, or the speed of recovery of hospital patients, much less the improvement in the learning of students through the use of air conditioning. But here are a few examples which are more than interesting:

1. Today, doctors know that the individual control of the hospital room environment will help a patient recover more quickly, some patients need warm and humid rooms, while others need cool and dry rooms, depending upon the illness.
2. In treating patients with rheumatic arthritis, a hot, dry environment of 90 degrees and 35 per cent relative humidity has proved to be desirable. Nurseries should be maintained at about 85 degrees and 60 per cent relative humidity.
3. John Hardy and Son, manufacturers of nylon hosiery at Pulaski, Tennessee, reported a 29 per cent increase in production after installing air conditioning. The knitting machines required less maintenance and maintenance costs dropped 80 per cent.
4. A survey of seven manufacturing plants in the New York City area indicated that 100 days in each year are so hot or

humid that employees either slow down or stop work entirely during part or all of the day, and that an average of \$108 is lost each year for each employee working in a non-air conditioned building. Plant absenteeism dropped 25 per cent to 30 per cent after the installation of air conditioning, turnover in personnel was reduced, cleaning costs were lower, and productivity increased.

5. The Detroit Edison Company made an efficiency study in its drafting room a few years ago. Without air conditioning, 8,988 work units required 5,008 man hours. Following the installation of air conditioning, 10,474 work units required only 3,872 man hours, indicating an increase in efficiency of 51 per cent.
6. Our Federal Government conducted a stenographic test in 1946 when stenographers typing triangulation data worked two weeks in a non-air conditioned space and were then transferred to an air conditioned space. Using the same typewriters, their output increased 24 per cent.
7. Nearly every major office building constructed in the past ten years has included complete air conditioning. More than 60 new air conditioned office buildings have been erected in New York City in the past ten years. And educators know that students learn more quickly in environments which are properly controlled. And this is particularly true of children who may learn to read twice as fast in classrooms at 70 degrees as at 80 degrees.
8. Dr. Brouha's studies, and those of University of Illinois scientists sponsored by ASHAE, have proved that there is no ill effect when a normal person goes back and forth between cool areas and much warmed ones.

School buildings are built to keep out the elements and to create an environment for teaching and for learning. Without the building, an environment cannot be created, and without the proper environment, there is no purpose in constructing the building. Everyday the creation of a suitable and adequate environment becomes more important to the comfort, health, and productivity of our students and to the efficiency of our staff.

Economic Factors

The economics of air conditioning must be considered. While the preceding case studies show efficiency increases of up to 51 per cent, it may be difficult to believe them because of their very

size. And it may seem doubly difficult to apply them to schools. When deciding whether or not year 'round air conditioning should be included, many factors must be analyzed. Some of these are:

1. The economics from the standpoint of human efficiency increase in performing their daily tasks in the building.
2. The economics of reduced personnel turnover and training due to improved working conditions.
3. The economic ability to compete better for personnel due to improved environmental conditions.
4. The economics of initial cost and the cost of owning and operating the air conditioning system.
5. The economic value of increased comfort as it affects students and administrative employees.
6. The economics of reduced cleaning costs and preservation of interiors and supplies.

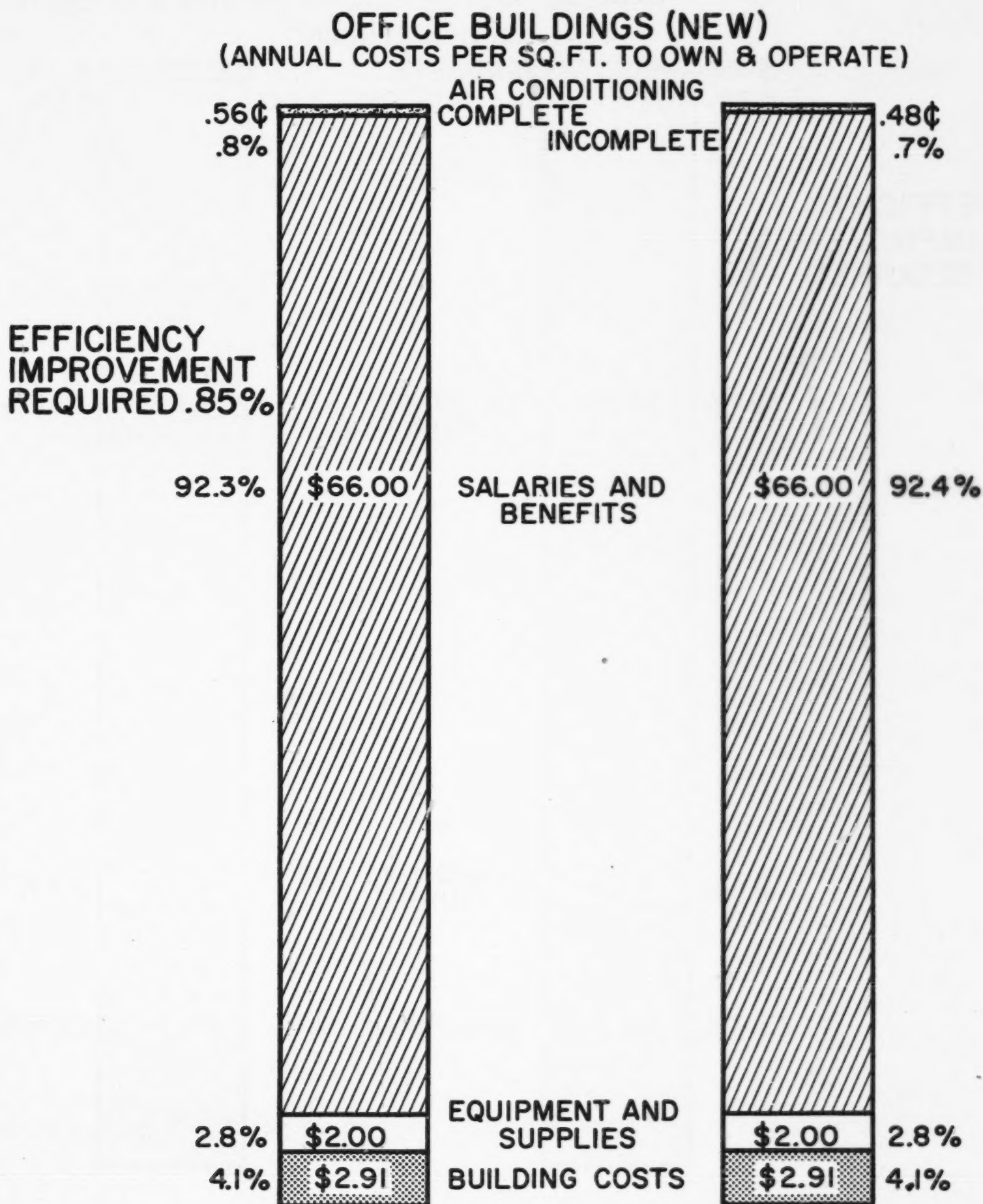
In addition to these factors, there are many other considerations--both tangible and intangible. However, if one can determine what efficiency increase is necessary for the installation to be economically profitable, then one can make his own decision based on this gain plus all the other factors such as reduced personnel turnover. As the figures which are about to be shown were developed, the experts were startled at the relatively small human efficiency increases required to make year 'round air conditioning economically justifiable. Even though our study of the economics of air conditioning has not been completed, we have representative information which can be presented now.

Cost of Air Conditioning

In the following charts, the cost of a new building is based upon today's construction costs. For schools, no tax cost is included and the insurance is estimated at 1 per cent. The air conditioning cost is based upon a year 'round system with a twenty year life, as recommended by the ASHAE guide, with 5 per cent of the original cost added for interest and 1 per cent for insurance and taxes. The air conditioning costs do not include the heating costs nor the cost of the heating equipment because we are attempting to compare the additional cost of year 'round air conditioning beyond the cost of a conventional heating system.

These are average air conditioning costs which have been prepared with the assistance of leading authorities, of course, these

cost estimates will vary somewhat with the design and geographical location of the building.

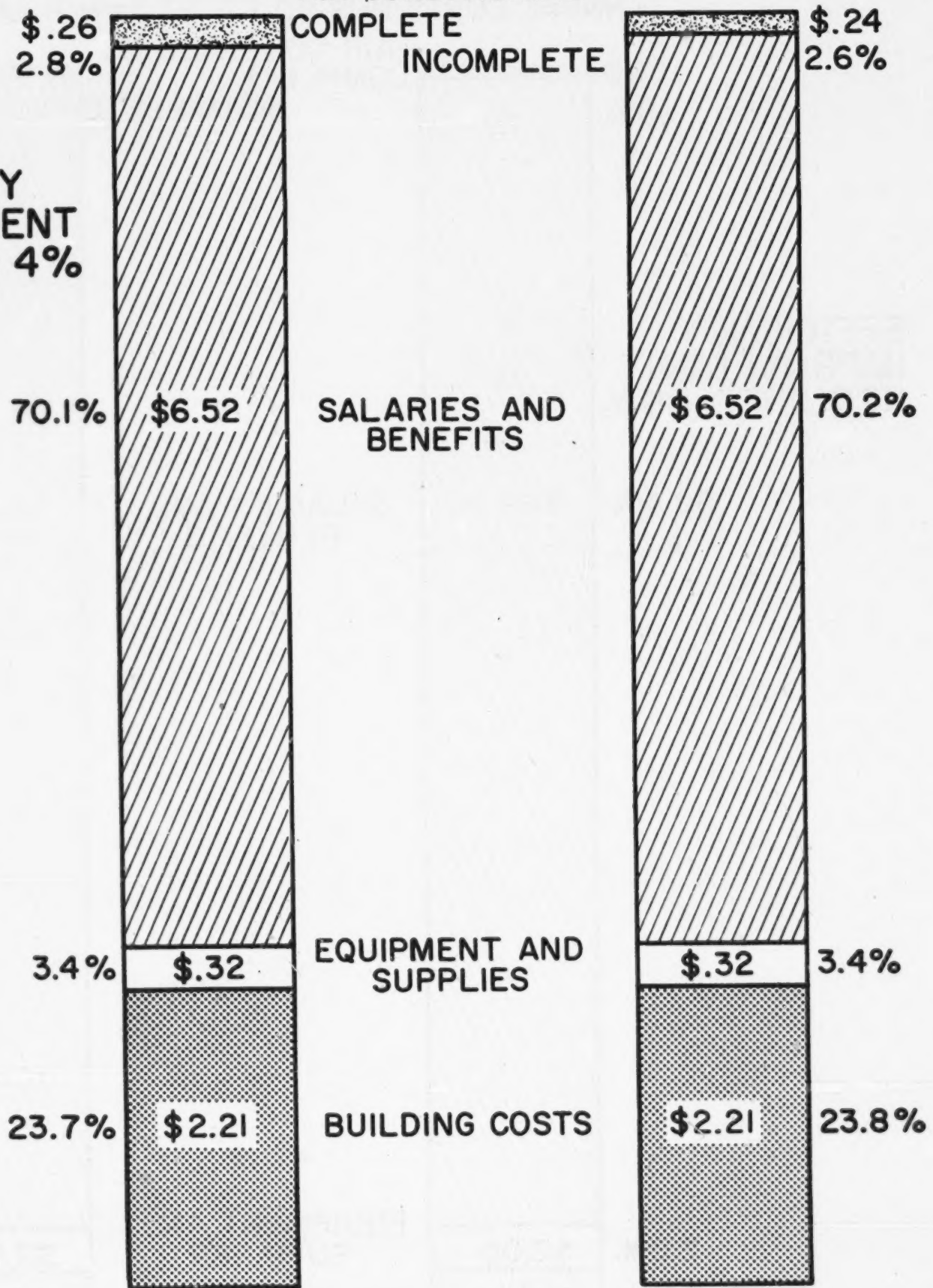


SCHOOLS (NEW)

(ANNUAL COST PER SQ. FT. TO OWN & OPERATE)

AIR CONDITIONING
COMPLETE
INCOMPLETE

EFFICIENCY
IMPROVEMENT
REQUIRED 4%



Benefits from Air Conditioning

Educators estimate that the amount learned by the average student will increase from 15 per cent to 60 per cent in a proper thermal environment. If it can be realized now that this improved education compounds over the years, the community will consider air conditioned schools very essential for its future. From a cold economic standpoint, considering the yearly cost of a student in school and that the purpose of the building is to educate the student-- a 2.3 per cent increase in learning is all that is needed to justify air conditioning.

Today, many schools are being built all over the country. Every effort is being made to reduce the cost of these schools, even to the extent of eliminating those things which are teaching aids. And yet, it is not generally known that only 10 per cent of the expense of operating a school system is spent on the construction and maintenance of the school building. A reduction in the cost of the building and its facilities may very well increase the subsequent cost of the school system and reduce the value of the possibilities for learning.

How often have people seen a school building constructed with either no air conditioning or at best an incomplete system? Many of them, too, have been guilty of compromising the quality of the schools. This can only hurt both students and community in the long run. If the people are to get the most out of their schools, they must all intensify the effort to build the best schools possible. They must not give into the fear of total dollars invested, and put educational investment in perspective to total operating costs. If an average increase of only .4.5 per cent in teaching efficiency or 2.3 per cent in increased learning is required to pay for fully flexible year 'round air conditioning, how can the schools afford to be without it? And who is better qualified to determine this fact than education itself?

More air conditioning in schools will be seen as parents and the public appreciate the importance of air conditioning as a teaching aid and as they learn that air conditioning will add very little expense to the over-all cost of education. The trend is toward the year 'round use of schools, either as classrooms or for other community purposes. Economy can only be achieved if the building functions as it was intended. The building must help not hinder the teaching-learning process.

CLARK COUNTY, NEVADA, MASTER PLANS ITS PROGRAM

Mrs. Charles Hyde, Member of the Board and R. Guild Gray,
Superintendent, Clark County School District
Harris Sharp, Architect, Las Vegas, Nevada

Clark County, Nevada, is a very normal American community with the same problems which would be faced by any community attempting consolidation of its school system. Since its very beginning, Clark County has had to take its growth in gulps. The construction of the Hoover Dam brought thousands of workers to the areas almost overnight. The industrial plant at Henderson came suddenly. Before the area had a chance to absorb the Henderson facility, the Air Base was established. After the war there was a period of decline; and then came a sudden expansion period in Las Vegas in the form of resort hotels, new industry, and atomic activities. During each period of expansion, the county and its political subdivisions have had to bond heavily to provide necessary services. The competition for the tax dollar has been intense.

Consolidation

By 1955 inflation had placed the school districts in Nevada in a critical condition. The legislature acted. Every school district in the state was abolished and seventeen districts established--one for each county. A sales tax was enacted and state aid for schools was greatly increased. Money was available but Clark County, with forty per cent of the state's children, was faced with the difficult task of consolidating its fourteen school districts--20,000 children scattered over 8,000 square miles.

It was only natural that the smaller districts should fear the domination of the larger district in Las Vegas. One of the most prominent fears was based on desirable attitudes toward small school systems. However, the new state law had formulae which had to be followed.

Under the law, each established board would have votes in accordance with the number of certificated personnel. This, of course, put the balance of power in the larger Las Vegas District. However, to prevent domination, the Las Vegas Board of Education, gave the small areas opportunity to nominate and select their own people. This brought about a feeling of co-operation which was primary in dissolving many pre-conceived ideas of domination by the larger Las Vegas District.

There was apprehension about the question of finance. Heretofore, the Las Vegas System had been in an extremely critical condition. The rural areas felt that they might suffer to support the consolidated district. In addition, there was local pride in the school systems originally established. For example, one district emphasized agricultural, while another emphasized college preparatory courses. This pride was centered in a feeling that centralization would lose sight of local needs. Naturally, there were many arguments for and against centralization, but it was apparent that the advantages outweighed the disadvantages in consolidating. Every area had much to gain with little to lose.

Advisory Council

After a newly organized school system was made, the Board of Education decided to seek outside professional advice. This advice helped establish some basic principles under which the Board could operate. A new administrative unit was suggested wherein a concept of an advisory council was recommended to advise the superintendent of schools. The council consisted of three original superintendents of schools from small districts, the assistant superintendent of Las Vegas, and one other person responsible for rural schools and transportation. Certain areas of responsibility were assigned.

Following the establishment of this type of administrative organization, the next problem to be faced was finance. The intent was to bring all of the schools in the county up to the highest possible level, and not deprive any school of its established educational advantages. To do this, it became apparent that there would not be sufficient funds to allow for capital outlay. It would be necessary to bond to build much needed classrooms. After studying the results of a survey that was conducted by outside consultants, the Board of Education voted to ask the electorate of the school district to vote upon a \$10,600,000 bond issue.

The passage of the bond issue made it possible to have available funds to start specific planning for five junior high schools in Las Vegas, a high school at Mesquite and a number of elementary school buildings throughout the county.

To-date a number of the buildings are under construction and the program is moving along on schedule.

Master planning, plus planning in detail for specific buildings has paid off for Clark County.

The success of the Clark County School District can be attributed to a hard working and understanding board of school trustees, a co-operative board of county commissioners, an interested electorate, and a co-operative council of the City of Las Vegas.

A recent aerial view, looking Northeast, showing pattern of growth around Las Vegas, the most populous area of Clark County, Nevada.



WISDOM IN PURCHASING SITES IN ADVANCE

Thomas F. Reynolds, Superintendent
San Mateo Union High School District
San Mateo, California

A comprehensive study or analysis of school needs, in terms of projected enrollment, land availability and cost, and a long range plan, should be developed before steps are taken to acquire additional sites. The development of a statement of district needs, based upon these and other basic data, is essential for better understanding of the site problems to be resolved by the administrator and the governing board. The administrator in preparing this statement of need, with or without the assistance of educational consultants, will gain a better understanding of his problem. A well conceived plan, properly executed, will have the resulting effect of saving time and money.

Site Procedures Fit District

The procedures followed, to procure information vital to the selection of a site, will vary in the different districts of the state. In some districts the school administrator, with help from members of his staff and community, will develop a survey staff who will collect all necessary data essential to the selection of a site. In other districts the administrator may procure authorization from his board of governors to enlist the services of educational consultants to conduct the survey and report their findings to the administrator and the governing board. In either case, the staff will find it necessary to enlist the co-operation of utility companies and public bodies for factual information on population growth. A careful examination of past and present trends in school population is necessary in order to develop accurate methods of predicting what the enrollment will be ten years hence. The location of the existing schools, with emphasis upon their location and size with reference to the growing population, is necessary to determine what percentage of the increased growth can be accommodated economically in the existing facilities. The preparation of dot maps showing the place of residence and distribution of students at various grade levels is helpful in determining the general area to be served by a

new school. When it is determined that a site is needed in a specific area, aerial photographs will provide members of the survey staff with valuable assistance.

Recommended Steps in Site Acquisition

When the survey staff has determined the number of sites necessary to accommodate the school population, currently and for at least ten years hence, they are then in the position of recommending to the board of education that the sites be purchased. The superintendent, given authorization to proceed with steps necessary to acquire the sites, may do so through negotiations with owner or owners of the property or by filing a condemnation suit. In either case, it would be well for the superintendent to develop and follow a check list of procedures that must be followed in the acquisition of any site. A few of these items are listed below:

1. The employment of civil engineers for the purpose of establishing the metes and bounds of the property to be acquired so that a preliminary title search can be prepared.
2. The procurement of a preliminary search or report on the property from a title company.
3. Employ services of at least two appraisers.
4. Secure approvals from the State Department of School-house Planning, city planning commission or, where the property lies outside of a municipality, from the county planning commission before acquiring title to the property. Approvals must be secured if there is any reason to believe that a condemnation suit may be necessary to acquire property. These approvals are always requested in court during condemnation suit.
5. Written approval should be on file before any but the most preliminary steps toward purchase are taken.
6. Request for approval to agencies should be accompanied by both a map and a description of the property under consideration.
7. Negotiations between owner and the district may begin or, when it is necessary, the board will adopt a resolution of intent to condemn.
8. Superintendent renders progress reports to the governing board from time to time on his negotiations with owners.

9. The superintendent will submit a recommendation, at a regular meeting of the board, that the site be purchased at a stipulated figure.
10. Board adopts resolution of acceptance of the grant deed from the seller.
11. Board adopts resolutions regarding removal of the property from the tax rolls.
12. Board accepts resolutions from county board of supervisors and city council approving cancellation of taxes on the acquired site.
13. District notifies county assessor and county superintendent of acquisition of additional property. Notification should contain description of the property, name of the seller, amount paid, and date of transfer of ownership.

Savings By Site Purchase in Advance

The case for the purchase of school sites in advance of immediate need, if one is to assume that present economic conditions are to continue, or if we are to experience further inflation, is very strong. In many areas throughout the state, where rapid growth in population has been experienced, suitable school sites are not too numerous. A delay in the procurement of sites in these instances might mean that at a later date it would become necessary to demolish buildings to make way for the new school. This, of course, would be very expensive. There is also a possibility, where the purchase of a school site is deferred, that the district will find itself in the position of being unable to house students in existing facilities and, thereby, forced into overcrowding and extra sessions. There is an economic advantage in the purchase of school sites well in advance of immediate need for it has been clearly demonstrated in many areas throughout the state that the appreciation of land values has been great. In one of our peninsula districts, two sites were purchased--one on December 21, 1949 at a cost of \$6,750.00 per acre--another on November 20, 1952 at \$6,717.88 per acre. On July 22, 1957, the same appraiser employed by the district when these purchases were made, stated that the value of these properties has more than doubled since they were acquired by the district.

In a rapidly growing district, the citizens are likely to be well informed relative to the appreciation in land values. They will also be aware of the decreasing number of suitable school sites for they have witnessed the rapid expansion of home and industrial areas on acreage that could have been utilized for school purposes. Where these conditions exist, the plan of purchasing school sites well in advance of immediate need will receive the endorsement of the citizens of the district.

SCHOOLHOUSE PLANNING FOR THE FASTEST GROWING DISTRICT IN AMERICA

Harry B. Saunders, Assistant Director of Educational Housing
Alfred D. Whittle, Chief Architect
Los Angeles City Schools
Los Angeles, California

The Los Angeles City School District has witnessed a tremendous enrollment growth as a result of the unprecedented in-migration to metropolitan Southern California since 1940. A few statistical items make explicit the enormity of this development. In a ten year period, from 1940 to 1950, the population of the School District grew from 1,714,000 to 2,377,000--an increase of 633,000. This is an average growth of a new city of medium size each year. From 1950 to 1960, the school population will increase to 2,960,000. This represents a growth of about 500 children per month entering the schools. Yearly births have increased from 26,000 to 60,000 in the period--1940 to 1956. These two factors--in-migration and higher birth rates--have been the basis of the schoolhousing problem.

Accepting this abrupt expansion as a challenge, the Administration has provided for a complete re-organization of its Architectural and Building Branch as well as creating and staffing an Educational Housing Branch. The intent of this article is to present the problems involved in planning for school facilities from the Superintendent's and Staff's point of view. For this task, the Educational Housing Branch's responsibility is explicit. It is to predict enrollments, time the building and financial programs, determine the kind of classrooms required, and check drawings of schools at various stages of completion. With this co-operation between educational division and architectural services, an organization can be extremely functional.

In order to accomplish the tasks produced by enrollment increases, research programs are in continuous operation in the Educational Housing Branch of the Los Angeles School District. For example, the projection of school enrollments is an exacting exercise under relatively stable circumstances. The system of estimating potentials in enrollment growth includes four facets:

- 1) Simple grade progression,
- 2) House to house survey,
- 3) Spot

maps to check existing enrollments, and 4) Surveys of subdivisions and tracts.

To insure an even-flowing construction program that will meet the classroom needs for the growth potential within the limits of financial resources, the Educational Housing Branch has established responsibilities which are of prime importance. These responsibilities shall be considered as: 1) The Educator's Responsibility, 2) Staff and Liaison Responsibility with architects, and 3) Joint Responsibility.



Los Angeles experts, Harry B. Saunders and Alfred D. Whittle present school building plans.

The Educator's Responsibility

A school that is now being planned will probably be in use for at least the next fifty years. In providing a building that will have flexibility commensurate with future educational needs, it is well to remember that, though basic curriculum changes slowly, methods of instruction are likely to go through various cycles before many major changes in facilities are feasible. A group of spaces must be provided which will house an increasingly complex series of

instructional methods. Obviously, it is important to insist that space is provided for future expansion. This is a principal purpose in master planning. Many times educators are forced to increase the size of a school to fit a larger enrollment than they want it to be. The Los Angeles District's policy of building 80 per cent permanent classrooms and 20 per cent portable classrooms has proven to be one of its successful methods of flexibility.

Flexibility in line with curriculum practice is best judged when planning is geared to a system of standards. The Los Angeles School District has established procedures in setting-up building standards at the elementary, junior, and senior high school levels. The Educational Housing Branch starts with a working committee of principals. Each area of curriculum is represented by a committee consisting of teachers, supervisors, and administrators. Recommendations and justification of need are made by each of the committees in view of the total instructional program. Representatives of the Housing Branch with the Architects sit in as advisors to the committees to answer technical questions. Consideration of all factors of educational requirements and building details are given equal attention. The resulting information is further checked by assistant superintendents and their staff and reviewed by the Superintendent of Schools. The information is then presented to the Board of Education. After the Board of Education has had opportunity to consult with lay interests, final approval is given to the standards.

With the development of educational standards for building, the Educational Housing Branch is able to give the architects a listing of the various kinds of rooms, numbers of rooms, actual floor plans, and a simple elevation diagram.

Staff and Liaison Responsibility with Architects

The primary responsibility of any school architect is to give the educator the very best facility for teaching which is possible within the available funds. At Los Angeles, 95 per cent of the architectural work is done by private firms. The District has found it uneconomical to build a highly technical architectural staff large enough to process the building program in terms of the short space of time, of building requirements, and then continuously maintain this staff during the lull that often occurs as a new bond issue is put before the public to finance the next building program. However, architectural staff members are used in cases where the projects are confined to alteration and improvement work on jobs less than a \$100,000. This staff may, from time to time, develop and design a new plant for the study of standards, and spend a great deal of time in preparation with the educators of standard building drawings for distribution to the private commis-

sioned architects.

Supporting the architectural contract are two contributory groups--technical staff and a construction inspection staff. The architectural technical staff consists of some one hundred people who represent all fields of architecture, structural, landscape work, civil, electrical, mechanical engineering, specifications, and estimating. The inspection staff consists of an average of sixty people, including general construction inspectors, special inspectors in the fields of earthwork and paving, plumbing, heating, electrical work, and painting. Although these inspectors are employees of the District they must be approved by the State Division of Architecture, as well as by the commissioned architects.

In the development of the drawings and specifications for a school plant by a private architectural organization, the task of the District's technical design and construction staff becomes one of liaison between the architect and educator groups. Advice and direction is given the architect in the application and use of standards, construction, and materials policies that have evolved through the years. Advice is not given the architects because it is felt that they are not capable of designing good facilities; rather it is felt that the standards, borne by good experience and careful evaluation, make real contributions to the architect's planning.

What, then, are the instructions that are given the architect as he begins a program for the system? He is supplied with a building program, a plot, topographical information, requirements for site development, standard drawings of educational facilities, a plan of procedures, basic design policies, and materials and fixtures specifications. The Housing Staff points out desirable building and area relationships, the groupings of teaching activities, and the location of play areas. It also outlines design requirements for site drawings, and clearly identifies specific needs to the architect. In this manner and procedure much time is saved.

Educational Specifications: A Joint Responsibility

The educator is necessarily responsible for conveying to the architect the nature of the educational program to be housed in the facilities. The architect, then, can fit his professional understandings to these specifications. This is an area of close co-operation and joint responsibility.

The architect is given the basic design requirements by the Los Angeles School Systems Housing Branch and the policies that will have a material affect on the architect's solution of the educational specifications. For example, if the architect's program calls

for him to design a metal shop, the standards, or specifications tell him that the room is to be a certain size, and it is to have specified casework. The specifications show the number of pieces and locations of equipment that is to be furnished by the District.

The Los Angeles District has basic design requirements in several areas: 1) Audio-visual requirements, 2) Lighting, 3) Ventilation, 4) Acoustic requirements, and 5) Many others. Furthermore, in construction and material use the District has policies to cover: 1) section plans, 2) window size, 3) corridors, 4) type of sites, 5) building materials, 6) roofing, and 7) Several others.

All of the above information is channeled to the architect by the staff as the architect develops his drawings. Therefore, the architects have an understanding of the problems and develop attractive plants, using acceptable standards and design criteria. When 30 to 35 plants are under design almost simultaneously, mistakes must be corrected before they are compounded in several school plants.

The problem of keeping projects within the budget is always a difficult one. By using a plan, it is probably easier to stay within a budget. The standards are based on past costs and this helps to keep costs in line with the budget. Standards and design policies have been important and necessary factors in providing the best possible facilities in the Los Angeles School District.

"He that will make a good use of any part of his life must allow a large portion of it to recreation."

—Locke

RESOURCE MATERIALS FOR FURTHER INVESTIGATION

1. American Association for Health, Physical Education and Recreation of the NEA., 1201-16th Street, N. W., Washington 6, D. C.

Periodical: 10 issues annually, Journal of Health, Physical Recreation.

Example of material: College Facilities for Physical Education, Health Education, 1947. \$2.00.

Guide for Planning Facilities for Athletics, Recreation, Physical Education and Health Education. \$1.50.

Planning Facilities for Health, Physical Education and Recreation, 1956. \$2.50.

2. Association Press, 291 Broadway, New York 7, New York.

Example: Camp Maintenance. Alan A. Nathan, \$7.95.

Staging Successful Tournaments--Boyden and Burton. \$4.75.

3. Athletic Institute, 209 South State Street, Chicago 4, Illinois.

Periodicals: Sports Handbooks, Guides, Pamphlets, Slide films and Films.

Example: Essentials for Developing Community Recreation. 25¢.

Planning Facilities for Health, Physical Education and Recreation. \$2.50.

16 mm. Motion Pictures: Playtown U. S. A.
Leaders for Leisure
\$1,000 for Recreation
They Grow Up So Fast
Town and Country Recreation
Planning Recreation Facilities

4. California Association for Health, Physical Education and Recreation.

Periodical: Journal of California Association for Health, Physical Education and Recreation. Published five times a year. 693 Sutter Street, San Francisco, California.

5. California Recreation Commission. Sacramento, 14, California.

Periodical: Regular monthly bulletins issued by Commission to the Governor.

Annual Reports on various phases of commission study.

Example: Compilation of Laws Relating to Recreation in California.

Laws and Regulations Relating to Organized Camping.

Recreation Policy, State of California, 1955.

6. California, State Department of Education, Sacramento, 14, California.

Example: Planning Facilities for Health, Physical Education and Recreation.

Planning School-Community Swimming Pools, 1955.

Physical Education for Girls in Secondary Schools, 1957.

7. National Recreation Association, 8 West Eighth Street, New York 11, New York.

Periodical: Monthly Recreation magazine.

Annual guide to books on Recreation, 57-58 edition.

Example: #539 Conduct of Playgrounds 75¢
#540 Conduct of School Community Centers 50¢
#313 School-City Co-operation in the Planning of Recreation Areas and Facilities. Butler. 75¢
#312 Recreation Areas--Their Design and Equipment. Butler \$6.00.

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